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INVESTIGATIONS ON SWIMMING POOLS AT THE UNIVERSITY OF MINNESOTA

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ST. PAUL

This investigation was undertaken for the purpose of improving the sanitary condition of the swimming pools at this institution. The first experiments were conducted on the pool located at the men's armory and gymnasium, and later comparative studies were made on a pool that had been recently installed at the women's gymnasium.

SWIMMING POOL AT MEN'S ARMORY AND GYMNASIUM

This pool is located on the ground floor of the building (Figs. 1 and 2). It is 59 feet, 6 inches in length, 25 feet in width, and has a water depth of 7½ feet at one end and 3½ feet at the other. The capacity of the pool, when filled to the normal water line, is about 60,000 gallons. The walls of the pool are constructed of reinforced concrete which is covered with white tile. Life rails are provided at the sides and the ends of the pool, and troughs at the sides. As originally designed, the water was admitted to and drained from the pool through a pipe near the floor at the deep end. After the installation of the pressure filters, a separate inlet pipe was constructed to conduct filtered water to the opposite end of the pool, leaving the outlet pipe to serve as an intake to the filters. This outlet pipe is provided with a connection to the sewer. An overflow pipe near the water surface is connected with this outlet pipe, leading to the sewer. The water in the pool is heated by means of a steam pipe which has one connection at the bottom and another near the surface at the deep end.

The water used in the pool is obtained from the public water supply of the city of Minneapolis. This supply is taken from the Mississippi River and is subjected to sedimentation, coagulation, filtration, and liquid chlorin treatment before distribution. Bathers are required to take a shower before entering the pool, and no bathing suits are worn. The bathers are not subjected to a medical examination before entering the pool, but the attendants are instructed to report any suspected or known cases of disease.

FILL AND DRAW METHOD AND HYPOCHLORITE TREATMENT

The first experiments were conducted on the pool while the fill and draw method and hypochlorite treatment were still in use. The water in the pool was changed twice a week. During the process of filling and until the temperature had reached from 78 to 80 F., steam was applied in the manner previously described. Two pounds of calcium hypochlorite were added each evening when the pool was closed for the day. The hypochlorite was administered by means of a hollow brass cylinder with a hose connection at one end and a nozzle at the other. A one pound can of hypochlorite was placed in the brass cylinder after several holes had been perforated in each end of the can. This apparatus was attached to a hose and the water pressure turned on, which scattered the hypochlorite over the surface of the pool. This method did not break up the lumps of chemical, and many could be seen floating on the surface of the water until broken up by the bathers.

TABLE 1.—RESULTS WITH FILL AND DRAW METHOD AND HYPOCHLORITE TREATMENT

	Number of Tests Averaged	Average Number of Bathers	Pool in Use Since Filling (Hrs.)	Time Between Tests (Hrs.)	Available Chlorin Added to Water (Parts per Mil.)	Bacteria per C.c. (Average)	B. Coli Found in C.c. Amounts
City water	2	0	0	0	0	14	0*
City water first day after one day's bathing without treatment	3	65	24	10	0	1,400	1
City water second day after one day's bathing and treated with hypochlorite	4	0	24	24	0.64	3,500	100
City water third day after two days' bathing and hypochlorite treatment twenty-four hours previous	4	65	72	24	0	1,800	1

* B. coli 0 = absent in 100 c.c.

Table 1 includes the results obtained by this method of treating the water in the pool. The laboratory methods used during the experiments recorded in this report are those recommended by the Laboratory Section of the American Public Health Association. The bacterial counts were made on agar at 37 C. (98.6 F.), and the examinations for the *B. coli* group were carried through the "completed test." The pool water was examined for *B. coli* in 0.001 c.c., 0.01 c.c, 0.1 c.c., 1 c.c., 10 c.c., and 100 c.c. amounts. The results show that the sixty-five bathers who used the pool during the first day after it was filled with fresh city water contributed a marked amount of pollution as indicated by the increase in bacteria, and the presence of the *B. coli* group in 1 c.c. amounts. The calcium hypochlorite that was added to the water at the end of the day's bathing reduced the *B. coli* content of the water,

but did not permanently reduce the bacterial count. This increase in the bacterial count is not unusual under such conditions, for the samples were collected at the beginning of the second day, or twelve hours after the hypochlorite was applied. The hypochlorite probably removed many of the vegetative forms of bacteria and left the spore forming organisms. It has previously been demonstrated[1] in the treatment of Mississippi River water that spore formers develop very rapidly after the removal of the vegetative forms and the hypochlorite has ceased to be active. In view of these facts, the action of the hypochlorite treatment in removing indications of dangerous contamination under the conditions described in the experiment should be interpreted on the *B. coli* results rather than on the bacterial count. The results obtained at the end of the bathing period on the third day, or the day following the hypochlorite treatment, show a marked increase in the *B. coli* content of the water. The reduction in bacterial count may have been caused in part by a retarded action of the hypochlorite on the spore formers. The results of these experiments show that this method of operating the pool does not produce uniformly satisfactory results so far as the sanitary quality of the water is concerned. The method is costly as it necessitates refilling the pool twice a week, and the heating of 120,000 gallons of water to 79 F.

Fig. 1.—Swimming pool at men's armory and gymnasium.

PRESSURE FILTERS

On account of the unsatisfactory physical and sanitary condition of the pool, which resulted from the method previously discussed, pressure filters were installed so that the water could be recirculated through the pool. The filter equipment consisted of a centrifugal pump with a capacity of 100 gallons a minute, two coagulant tanks, and two cylindric pressure filters (Scaife & Sons). Alum and soda ash were used as coagulants. The maximum capacity of the plant was 144,000 gallons a day, or 60,000 gallons for ten hours, which is the average length of time the pool is in use each day. The capacity of the pool is 60,000 gallons; therefore, theoretically, the water would be changed during each ten hour day. The plant is located and connected to the pool as shown in Figure 2. Experiments were conducted with the filter plant in operation without any other treatment to determine its effect on the quality of the water in the pool. Table 2 shows the bacteriologic results obtained during four separate tests covering a period of twenty-three days, the plant being operated ten hours each day. It is apparent from the findings that filtration alone gives very irregular bacteriologic results, and that further treatment is required to keep the pool in a satisfactory sanitary condition.

TABLE 2.—RESULTS WITH PRESSURE FILTERS

Number of Test	Pool in Operation Since Filling (Days)	Number of Bathers on Date of Test	Bacteria per C.c.	B. Coli Found in C.c. Amounts
1	1	110	9,200	1
2	7	70	9,000	10
3	16	65	22,000	0
4	23	85	2,300	10

RECIRCULATION, FILTRATION AND LIQUID CHLORIN TREATMENT

A liquid chlorin plant (Wallace & Tiernan Company) was installed as an adjunct to the pressure filters to remove the contamination which persisted after filtration. Experiments were conducted with various amounts of chlorin, as indicated in Table 3. During these tests the pool was cleaned once a week by means of a mechanical cleaning device which consists of a small centrifugal pump driven by an electric motor. To this pump is attached a hose armed at the end with a metallic head. This head is constructed with a narrow slot through which the water and dirt are drawn to the pump and discharged into the sewer. The large particles that may accidentally fall into the pool are removed with hoe-shaped utensils attached to a pole. All bathers took shower baths before entering the pool, and no bathing suits were worn. These results demonstrate that this 60,000 gallon pool can be kept in excellent sanitary condition throughout a ten hour bathing period, during which time 100 bathers may use the pool, provided the water is recirculated through the pool and the filters at the rate of 100 gallons per minute, and 1 part per million of available chlorin is added to the water. Physical and chemical examinations, made on the pool water after three

TABLE 3.—RESULTS WITH RECIRCULATION, FILTRATION, AND VARIOUS AMOUNTS OF CHLORIN ON SWIMMING POOL AT MEN'S GYMNASIUM

Number of Test	Number of Bathers on Date of Test	Available Chlorin (Parts per Million)	Bacteriologic Results		
			Number Samples	Bacteria per C.c.	B. Coli Found in C.c. Amounts
1	101	0.30	2	2,100	100
2	60	0.30	2	2,100	10
3	60	0.30	2	4,000	10
4	66	0.45	2	60	10
5	114	1.00	2	38	100
6	75	1.00	2	2	0
7	105	1.00	2	27	0

1. Wasbrook, F. F., Whittaker, H. A., and Mohler, B. M.: The Resistance of Certain Bacteria to Calcium Hypochlorite, Jour. Am. Pub. Health Assn., 1911, 1, 123-124.

days' use without filtration, and after six months' use with filtration and liquid chlorin treatment, are shown in Table 4. On comparing the physical results

TABLE 4.—EFFECT OF BATHING AND TREATMENT ON WATER IN POOL

Number of Bathers	Treatment of Pool	Time in Use	Physical Exam.			Chemical Examination								
			Turbidity	Color	Odor	Total Hard	Alk.	Inc.	Alb. NHs	Free NHs	NO2	NO3	Cl.	Iron
0	None	0	0	15	v-1	200	180	20	0.190	0.238	0	0.32	1.5	0
178	None	3 da.	4	30	s-2	200	180	20	0.330	0.332	0	0.48	2.0	0
10 000	Filtration and liquid chlorin	6 mo.	0	7	m-1	200	88	112	0.364	0.108	7	0.16	28.0	0

of the unfiltered and filtered water with fresh city water, it will be seen that filtered water, after three months' use, is in better condition than the unfiltered water after three days' use. The chemical results show an appreciable decrease in the alkalinity and an increase in the amount of incrustants and nitrites at the end of the six month period.

SWIMMING POOL AT WOMEN'S GYMNASIUM

This pool is located in a semi-basement room of the gymnasium building (Figs. 3 and 4). It is 53 feet, 9 inches in length and 24 feet, 6 inches in width. The water depth varies from 3 feet, 6 inches to 7 feet, 6 inches. Its capacity, when filled to the normal water line, is approximately 55,000 gallons. The walls of the pool are constructed of reinforced concrete, and their inside surfaces are faced with mosaic stone. Skimming troughs are provided at the sides of the pool. The pool water is purified by recirculation, a pressure filter, and a liquid chlorin plant. The water purification equipment consists of a centrifugal pump with a capacity of 100 gallons a minute, two coagulation tanks, one cylindrical pressure filter (Scaife & Sons), and one liquid chlorin plant (Wallace & Tiernan Company). The location of this equipment and its connections with the pool are shown in Figure 4. It will be noted that the treated water enters at each end of the pool at the surface of the water, and is removed at a point 10 feet from one end at the bottom of the pool. The water is heated by means of a steam pipe attached to one of the water intake pipes and another pipe used exclusively as a steam inlet. The water used in the pool is obtained from the city supply of Minneapolis.

With the above described equipment in use, the pool is filled once a season, unless it is necessary to drain for repairs, and any water lost through leakage or evaporation is replaced. The bottom of the pool is cleaned once a week with the same apparatus used at the men's swimming pool. The bathers are required to take a shower bath before entering the pool, and bathing suits are worn. The bathing suits are of the trunk type with a short skirt and are made of cotton material.

When the pool was first put in operation, the treated water was admitted at one end of the pool. This was found to be very unsatisfactory, as the water at the opposite end of the pool was not replaced as rapidly

TABLE 5.—RESULTS SHOWING IMPERFECT CIRCULATION OF WATER IN POOL

Sample Collected	Number of Samples	Average Bacteria per C.c.	B. Coli Found in C.c. Amounts
South end near inlet	4	300	100
Center at outlet	4	900	10
North end, 43 feet from outlet	4	1,000	10

as necessary. Bacteriologic results on samples of water collected at both ends of the pool and at the outlet near the center, while this condition existed, are shown in Table 5.

A number of tests were made to determine the proper quantity of chlorin to add to the filtered water

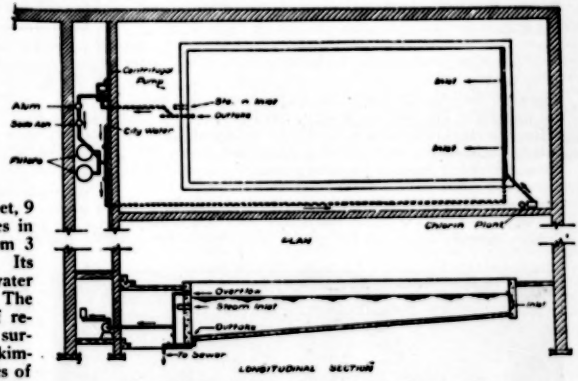

Fig. 2.—Water circulation system of men's swimming pool.

as admitted to the pool under normal operating conditions. The results of these tests, which are recorded in Table 6, show that one part per million of available

TABLE 6.—RESULTS WITH RECIRCULATION, FILTRATION, AND VARIOUS AMOUNTS OF CHLORIN ON SWIMMING POOL AT WOMEN'S GYMNASIUM

Number of Test	Number of Bathers on Date of Test	Available Chlorin (Parts per Million)	Bacteriologic Results		
			Number Samples	Bacteria per C.c.	B. Coli Found in C.c. Amounts
1	71	0.15	3	600	100
2	25	0.15	2	2,200	0
3	78	0.15	2	3,400	10
4	70	0.39	3	140	100
5	43	1.00	3	4	0
6	110	1.00	2	55	0
7	125	1.00	3	3	0

chlorin is sufficient to keep the pool water in good sanitary condition for 100 bathers during a ten hour bathing period. The largest number of persons in the pool at any given time during these tests was thirty-five.

These results are comparable with those found for the men's pool, and again show that recirculation, filtration and chlorin treatment, when properly carried out, provide a satisfactory means of keeping the water in a swimming pool in a safe condition for bathing purposes.

GENERAL CONCLUSIONS

The results of these experiments show that the fill and draw method, with the daily addition of hypochlorite in the quantities used, did not keep the pool in a satisfactory condition from either a sanitary or an esthetic point of view. Recirculation and filtration improved the physical properties of the water, but did not materially improve its sanitary quality.

Recirculation, filtration and chlorin treatment provide a satisfactory method of keeping the water in these swimming pools in a sanitary condition, provided the detail rules for operation are carried out. The experimental results show that this method will keep the water in a 60,000 gallon swimming pool in a satisfactory sanitary condition for use by 100 persons during a ten hour bathing period, the number of bathers not to exceed thirty-five persons at any one time, provided the water is recirculated through the pool at the rate of 100 gallons per minute, and one part per million of available chlorin is added to the water. Comparative results on the methods covered by these experiments are shown in Table 7.

TABLE 7.—RESULTS ON METHODS OF OPERATING SWIMMING POOLS

Method of Purifying Water	Average Number of Tests	Pool Emptied	Available Chlorin Added to Water (Parts per Mil.)	Time Between Tests (Hours)	Average Bacteria per C.c.	B. Coli Found in C.c. Amounts
Fill and draw	3	Daily	....	24	1,600	1
Fill and draw and hypochlorite	4	Weekly	0.65	24	1,900	1
Pressure filters	4	Yearly	....	24	13,100	1
Pressure filters and liquid chlorin	6	Yearly	1.00	24	20	0

Fig. 3.—Swimming pool at women's gymnasium.

RULES TO CONTROL THE OPERATION OF SWIMMING POOLS

1. The general supervision of the swimming pools and their equipment must be assigned to a person who thoroughly understands their operation, and who is provided with the necessary assistance and laboratory facilities for carrying on this work.

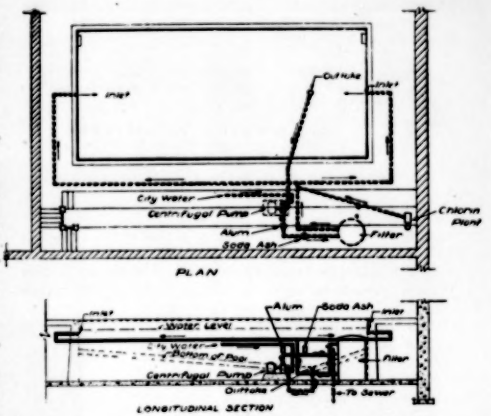

Fig. 4.—Water circulation system of women's swimming pool.

2. The routine operation of the pools must be in the hands of a person especially trained to carry out the detail rules laid down for this purpose and who can keep a daily record of the operating data. (See appended rules for operation and record sheet.)

3. The quality of the water in the pool must meet the following bacteriologic requirements: The bacterial count must not exceed 100 bacteria per cubic centimeter, and organisms of the *B. coli* group must be absent in 10 c.c. amounts.

4. The bathers must be under medical supervision, and all persons suspected of or suffering from communicable diseases must be excluded from the pool. (See appended rules governing persons using pools.)

RULES FOR OPERATION OF SWIMMING POOLS

Pool.—The pool must be cleansed whenever suspended material is present to the extent that it is visible to the naked eye. The bottom of the pool should be examined frequently, and any large material left in the pool by the bathers should be removed.

Filters and Chlorin Plant.—The filters and chlorin plant should be operated whenever the pool is in use and for at least one hour following, in order to remove as much suspended material as possible before it settles to the bottom of the pool.

The filters should be washed whenever the pressure gages indicate that cleaning is necessary. It is preferable to wash the filters following a period of rest.

Chlorin should be added to the water in amounts corresponding to one part per million of available chlorin. This amount of chlorin is based on the assumption that the number of persons using the pool during the bathing period shall not exceed 125.

RECORD SHEET

The data for a month may be kept on a blank with thirty-one lines (one for each day) under the captions:

- Year, month, day, hours.
- Plant:
  - Time operated:
    - Start.
    - Stop.
    - Total.
- Filters:
  - Pressure gage reading:
    - Before.
    - After.
    - Difference.
  - Washed.
- Chemicals:
  - Alum, pounds.
  - Soda ash, pounds.
  - Chlorin, parts per million.
- Pool:
  - Filled.
  - Appearance.
  - Cleaned.
  - Temperature.
- Number of bathers.

RULES GOVERNING PERSONS USING SWIMMING POOLS

1. Any person who has been exposed to or is suffering from a communicable disease (typhoid fever, diphtheria, scarlet fever, measles, etc.) should report the facts concerning the exposure to the person in charge of the pool and should not use the pool until permission is obtained from the proper authorities.

2. Every person must take a thorough shower bath with the use of soap before entering the pool.

3. Persons found polluting the water with their body discharges will be excluded from the pool. The trough along the side of the pool is provided as a place to expectorate. Do not expectorate in the water.

4. The water in the pool is purified and is safe for bathing purposes, but is not a drinking water; therefore, bathers are warned against swallowing any pool water taken into the mouth.

REMOVAL OF BRAIN TUMOR

REPORT OF A CASE IN WHICH THE PATIENT SURVIVED FOR MORE THAN THIRTY YEARS

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PHILADELPHIA

HISTORY OF THE CASE

By Dr. Keen

I shall give a summary of the case,[1] and at greater length than I would otherwise do, because it was my first modern brain case; because it shows our technic at that time; because it was one of the earliest operations on such tumors, following by only two years Godlee's in 1885, the very first ever done for a tumor of the brain; and because of the great length of time between the operation and the death of the patient.

History.—T. D, a man, aged 26, first consulted me in May, 1887, at the request of Dr. M. L. Davis of Lancaster, Pa., who furnished me with the following history: When 3 years old the patient fell out of a window, his head striking on some bricks several feet below. The skull on the left side was indented, and (as was disclosed by operation) there was a small fragment of bone detached from the inner table without fracture of the outer table. Evidently the child had struck on the pointed corner of a brick. A scar in the scalp, one-quarter inch long, marks the site of the injury.

He lay motionless for quite a long time as if dead. His recovery was slow, but apparently complete. At intervals, ever since he was 5 years of age, he had had a discharge from the right ear. In 1886 he became partially deaf in the left ear. He had long suffered from frontal headache. In February, 1885, when 24 years old and twenty-one years after the fall, violent epileptic attacks set in. They were followed by intense pain in the head. The attacks took place once or twice a week. By the end of April, 1885, the right arm, leg and face, in succession and in the order named, became paralyzed.

Dr. Davis first visted the patient at the hospital in Lancaster, June 8, 1885. As he approached the hospital he heard him screaming with pain, which was located on the left side of the head. The pain was increased by pressure. The right pupil was dilated and not responsive to light. The left was normal and responsive. Vision in the left eye was good, but

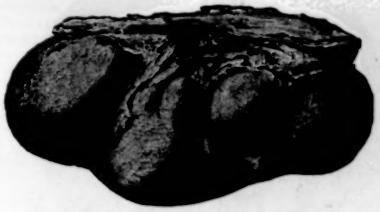

Fig. 1.—Lateral surface of brain tumor, natural size.

in the right eye was imperfect. Aphasia was marked so that he could not converse. The pulse was 60 and irregular; the respirations were 16; there was obstinate constipation and coated tongue, but no fever. Syphilis was eventually excluded. The diagnosis was "pressure on the anterior lobe of the left hemisphere involving the third convolution and extending backward, due to exostosis, tumor or possibly only thickening of the dura." Later and before operation, the diagnosis was more definitely limited to a tumor. The treatment was potassium iodid with arsenic and laxatives.

The patient's eyesight rapidly failed, and by August, 1885, he had become totally blind, first on the right side and then on the left. In two months his left eye improved sufficiently so that he was able to walk on the street alone. The right eye remained blind for several months, when sight suddenly returned, but vanished in a few hours. This intermittence of vision continued in both eyes. The urine was normal. His mentality was much impaired.

When I first saw the patient, May 30, 1887, in St. Mary's Hospital, Philadelphia, his paralysis had improved so that he could use his arm and walk, though halting very slightly.

Fig. 2.—Inferior surface of brain tumor, natural size.

He was slow of thought and speech, peevish, fretful, and seemed at times dazed. His gait was not spastic. There was moderate deafness, the right pupil was slightly the larger, and the right eye deviated slightly outward and upward. The small scar was 3 ¾ inches above the midzygoma and 1 ⅝ inches in front of the interauricular line.

June 7, 1887. He had six epileptic attacks while in the hospital, the first since November, 1885. Other attacks

1. The full report of the case is given in the Transactions of the American Surgical Association, 1888, and the American Journal of the Medical Sciences, October, 1888.

occurred at intervals of a few days. Dr. Oliver saw some of them and made careful ophthalmoscopic records. He was seen in consultation also by Drs. S. Weir Mitchell, Morris J. Lewis and George C. Harlan. The conclusion reached was that though the evidence was probably in favor of tumor, it would be wiser to continue for a time a course of potassium iodid. If he was not better in the autumn and he still desired operation, I told him I would operate.

Fig. 3.—Superior surface of brain tumor. This shows the removed portion of the dura and the small fragment of bone which at operation was found detached from the inner table of the skull, natural size.

Operation.—No improvement having taken place, the patient returned to the hospital for operation in the late autumn. The operation was fixed for Dec. 15, 1887. The hospital had formerly been a dwelling house, and was still quite primitive. Before the operation the carpet was taken up, and the walls, ceiling and floor were thoroughly scrubbed with phenol (carbolic acid). New, clean, marine sponges had been kept in phenol, but were used in 1:1,000 mercuric chlorid solution. The instruments were boiled in an open vessel for two hours before the operation; at later dressings they were only soaked in phenol, 1:20, for half an hour, and then transferred to boiled water suitably cooled. The phenol spray was used all the morning of the operation, but not during the operation itself or at any of the redressings. The hands were disinfected with soap and water, alcohol and mercuric chlorid.

For the operation a 1 ½ inch trephine was used. This was considered an enormous size, for the largest I had ever used before was only ½ inch in diameter. Removal of the first button exposed the tumor, but it was much larger than the opening. A second button was removed, and this opening at that time considered large, was still further enlarged by the rongeur until it measured 3 by 2 ½ inches. The upper margin was ¾ inch from the midline. The tumor dipped behind the squamous portion of the temporal bone for half an inch. The dura was adherent to the brain except at the margin of this large opening.

I have quoted this rather fully so as to give an idea of the startling size of this growth and to justify the trepidation which I felt in entering on this *terra incognita*, for this was my very first modern brain operation. My heart "sank down into my boots." But dangerous as the procedure might be I *had* to go ahead. I incised the dura one-quarter inch from the margin of the opening in the bone, and with my little finger, to my surprise and relief, enucleated the tumor with as little difficulty as one scoops an egg out of its shell. The hemorrhage was free but not alarming.

It is worthy of note that during the time occupied by controlling the hemorrhage the large cavity left by the removal of the tumor was half filled up by the resilient brain tissue. The bottom of this deep cavity consisted of softened and in parts shreddy brain tissue. Evidently the roof of the lateral ventricle was intact. The tumor was practically a foreign body starting at the dura as a result of the constant irritation from the little loose fragment of the inner table broken off at the time of the accident and never consolidated with the skull. As the elastic skull recoiled from the blow, evidently the fragment did not resume its original position, but was in contact with the normal inner table and so could not unite with the bone. Every inspiration and especially every impulse from the throbbing heart produced a slight movement of this fragment. The tumor, a fibroma, slowly but constantly growing, pushed the brain tissue downward.

At the conclusion of the operation, two rubber drainage tubes were inserted and an abundant gauze dressing applied. The bone could not be replaced, as the dura was gone.

The tumor weighed 3 ounces, 49 grains, almost a quarter of a pound. It displaced 2½ ounces of water. Its size was 2¾ by 2½ by 1¾ inches. Its circumference was 7¼ by 6 inches. Its posterior border reached backward nearly to the rolandic fissure. Pathologically it proved to be a pure fibroma (Figs. 1, 2 and 3).

Eight days after the operation the floor of the cavity which was also the roof of the ventricle evidently gave way, thus opening the ventricle. From the eighth day until the end of the fifth week the cerebrospinal fluid continued to escape very freely.

Postoperative Course.—No motor symptoms followed. The temperature was 100 ± for a week. Considerable disintegrated clot and shreddy cerebral tissue escaped, estimated at 4 ounces. All but two of the sutures had been removed by the eighth day. On the eighth day the patient's aphasia was greatly worse, the flap bulged more and more, the right arm became paretic, and the dressings—this is to be especially noted—were "saturated with a watery discharge but no pus." On the tenth day the temperature rose to 104.2 F., the face and arm were paralyzed, and by the next day the right leg was paralyzed. The patient had also a sharp diarrhea with fetid stools. Alarmed by these threatening indications of intracranial pressure and fearing also infection, I reopened the wound to nearly half of its original size—an error of judgment. But as I had no experience in such operations—and for that matter I might almost say that no one else had—I may be pardoned.

By the fourteenth day a moderate crescentic hernia cerebri had appeared (Fig. 4). The paralysis and aphasia gradually

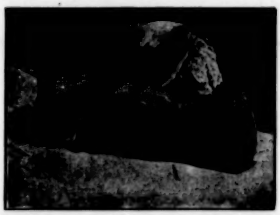

Fig. 4.—Hernia cerebri soon after operation. (From An American Textbook of Surgery, Ed. 4, p. 586.)

Fig. 5.—Depression in the head, sixteen years after operation. (From An American Textbook of Surgery, Ed. 4, p. 586.)

bettered, and the temperature became normal. The hernia cerebri at first increased, and by two small pin-holes at its middle a large amount of clear fluid escaped, evidently the cerebrospinal fluid. This fluid continued to escape until the end of the fifth week. The patient was sitting up out of bed at the end of four weeks. I had stained the nails of both hands with nitric acid and found that the nails on the right hand had grown "decidedly less than the left."

The hernia cerebri after a short time slowly subsided, till on the seventy-first day it was nearly on a level with the skull. The next dressing was four days later on the

seventy-fifth day, when, to our surprise, instead of an elevation, as it had always been, it had changed to a deep hollow. (In 1908, twenty-one years after the operation, I noted that the depth of this depression was 5.5 cm. This had been its usual depth [Fig. 5]. The patient went home on the eighty-fourth day. The nails of the right hand were still half stained; on the left hand a barely perceptible line of discoloration was visible.

I noted then, what was for years, and up to the last time I saw the patient a few years ago, an always striking phenomenon. When he sat upright, any muscular effort—for example, using the dynamometer, and forcibly resisted expiratory effort—and a change of posture, as in leaning forward, caused the usually deep hollow noted above immediately to bulge nearly an inch beyond the level of the skull. To protect his brain against injury I bent a piece of tin to fit the surface of his head, covered it with black silk, and sewed this to the inside of a skull-cap which he always wore.

Only three cerebral fibromas appear in Bernhardt and Hale White's table of 580 intracranial tumors. I gave an "entirely favorable prognosis" at the time of the operation, and thirty years have fully justifed it.

The patient's later history is at first of a stationary condition and then of a slow deterioration. The epilepsy was markedly bettered. In 1902 he wrote me that he had not had an epileptic attack for two years, and from 1902 to 1908 he passed six years more without a convulsion, but his eyesight was gradually failing. He was, however, able to come to my office from Lancaster alone up to about two or three years ago. He died, Jan. 29, 1918, thirty years and forty-five days after the operation.

Dr. M. L. Davis at once advised me of his death, and the next morning Dr. Aller G. Ellis went up to Lancaster and procured the brain, which the patient had promised to me many years before.

NECROPSY REPORT

By Dr. Ellis

The body was that of a well developed adult white man. Rigor mortis was present. There was a slightly oval, cup-shaped depression in the scalp on the left side of the head, just back of the hair line, that measured 5 by 6 cm. The center of this was 4 cm. deep in the recumbent position. The scalp was adherent to the margin of this depressed area, and its separation revealed a nearly circular opening in the skull. The longest diameter of this opening, taken from a point at the median line posteriorly to the most lateral point anteriorly, was 8 cm.; at right angles to this line the diameter was 7 cm. The depression in the scalp was smaller than this because of a crescentic ledge of very firm periosteum and dura 2 cm. wide that extended inward from the lateral margin of the bone and on a level with it.

Reflection of the scalp revealed it adherent at the margin of the opening in the bone, but fairly easily separated from the underlying tissue over the remainder of the opening. This underlying tissue was a gray, quite thick membrane that in many respects resembled the dura, but which was somewhat thinner than was the dura elsewhere. That this was not dura was clear because the dura was removed with the tumor. It must, therefore, have been a newly formed fibrous membrane. It was not adherent to the brain.

Turning back this membrane exposed a crater-like cavity in the brain having as its deepest part the floor of the left lateral ventricle (Fig. 6). The floor of the ventricle was exposed for a length of 5 cm., the foramen of Monro being plainly visible 2 cm. from the posterior point of exposure. The corpus striatum formed a part of the sloping floor and lateral boundary of the cavity, as the internal portion of the groove was deeper than the ganglion itself. The surface of the corpus had a number of tiny elevations. The thalamus was also visible at the posterior portion of the ventricle.

The wall of the cavity in general was of cerebral tissue that projected in rounded masses of varied sizes; these were firm and white, and looked like recently exposed brain tissue; in short, they presented the appearance of cerebral convolutions that evidently were displaced downward by the very slowly growing tumor. The falx cerebri formed a small part of the inner boundary where the cavity reached the midline superficially.

The base of the brain was unaffected, except that the optic commissure was decidedly smaller in size than is usual. The optic nerves also were small. Microscopically, sections of the left optic nerve showed decided atrophy, dense bands of fibrous tissue extending through it. In areas near the

Fig. 6.—*A*, longitudinal fissure of brain; *B*, narrow zone of skull removed to preserve contour of operative opening; *C*, one of the cerebral convolutions forming wall of cavity; *D*, *D*, anterior and posterior boundaries of wide open left lateral ventricle; these points are 5 cm. apart; *E*, foramen of Monro; *F*, left corpus striatum.

capsule, the fibrous tissue occupied much more space than did the nerve tissue itself.

Sections of the corpus striatum showed a covering of ependyma in an essentially normal condition. The tiny elevations on the surface were composed of neuroglia that underlay the ependyma.

Sections of one of the protuberances forming the boundary of the cavity were of cerebral tissue in which there were almost no pyramidal cells immediately under the surface and but few farther inward. Even those that were present were atrophied. There were a few more mononuclear cells along the course of the vessels than are commonly found. The surface next the cavity was of compressed neuroglia with no evidence of the formation of ependyma.

The tissue from which these sections were taken was somewhat distorted because of its position in the wall of

the cavity; conclusions, therefore, must be guarded. It would seem, however, that the layer of small pyramidal cells was thinned and the large cells atrophied.

The pathologic diagnosis was extensive wound of skull and brain exposing almost the whole of the left lateral ventricle; atrophy of the optic commissure and nerves with extensive fibrosis of the latter, and atrophy of pyramidal cells of the cortex.

The point of special pathologic interest in this case is the extensive exposure of the interior of the left lateral ventricle for a period of over thirty years.

The ventricular area of the central nervous system was greatly increased. So far as the clinical history indicates, there was no symptomatology of changed intracranial pressure, either increase or decrease. The fact that the covering of the wound was depressed when the patient was in the erect posture is anatomic evidence that the pressure was increased to no appreciable extent, if at all. When the patient stooped and the scalp protruded, the spinal fluid must have accumulated principally in the left lateral ventricular area. This fluid probably even came from around the spinal cord, but apparently without causing any clinical symptoms.

At necropsy there appeared to be no increased amount of fluid, and the depression of the scalp during life was proof that the wound cavity was not filled by that fluid. The case is unique from the standpoint of duration, and to the best of my knowledge of extent of involvement of the lateral ventricle, and we therefore have none with which it may be compared.

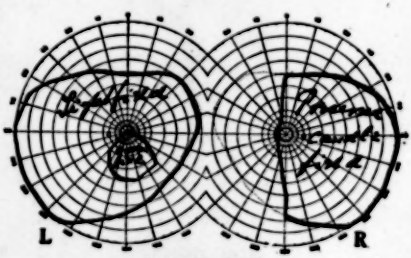

Fig. 7.—Visual fields.

The question arose as to whether the inner surface of the wound became covered by ependyma extending from the ventricle. This proved microscopically not to be the case. According to Weed, however, the ependyma plays a negligible rôle in the production of cerebrospinal fluid, and this would not be important from that standpoint. If, as is generally believed, the fluid is very largely the product of the choroid plexus, the condition obtaining here would be of more importance from the standpoint of pressure than from production of fluid. The case, therefore, was one of long-standing extensive increase of ventricular area of the brain without demonstrable clinical effect.

COMMENT

By Dr. Keen

In the length of life after the operation and the wide open ventricle, this case seems probably to be unique. The only roof to the ventricle was the thin fibrous membrane formed after operation. This was not adherent to the surface of the brain. Therefore, the cerebrospinal fluid had free access to the space between the dura and the pia-arachnoid, as well as to the subarachnoid space.

The cause of the formation of the fibroma, its very gradual displacement downward of the cerebral convolutions with disappearance of the pyramidal cells near the surface and their atrophy deeper down, and the great improvement in the epilepsy have been noted in the history. In spite of his early hemiplegia, the patient was able to walk about for years without a cane and with almost no evidence of any paralysis of leg, arm or face, unless possibly the slight deviation of the right eyeball was a result of the tumor. For one or two years before his death he was confined to his bed because of his increasing general weakness.

The hernia cerebri, and the cuplike depression at the site of the operation when the patient was erect, are shown in Figures 4 and 5. The changed condition from a cup over 2 inches deep to a rounded swelling nearly 1 inch in elevation brought about by muscular compression of the trunk and by the change from the erect to the horizontal position was evidently due partly to the almost instantaneous rush of the cerebrospinal fluid from the other ventricles and from around the spinal cord, and partly to the increase in the blood content of the cerebral veins. This ebb and flow of the cerebrospinal fluid was a most striking phenomenon, the like of which I have never seen in a large experience in cerebral surgery. Even the halting of the breath accompanying the use of the dynanometer, by coughing, etc., would either almost fill up the deep cup by the elevation of its floor, or if continued and with considerable force, would convert the cup into a hill. As in the erect posture the deep cavity was constantly present, it is evident that the total amount of cerebrospinal fluid was less than the normal, yet no cerebral symptoms ever resulted during more than thirty years of postoperative life.

Fortunately, fifteen years ago (Nov. 30, 1903), midway between the operation and the patient's death, Dr. de Schweinitz examined his eyes and gave me the subjoined brief report:

Ophthalmic Diagnosis: Postpapillitic atrophy of optic nerves.

Vision: Right eye, hand movements, eccentric; left eye, 1/20.

Pupils: Right, 8 mm.; left, 7 mm.; imperfect light reaction.

Muscle Balance: Vertical nystagmus.

Eyegrounds: Right eye, nerve head atrophic; both sets of retinal vessels smaller than normal, and perivascular lymph sheaths distended; numerous yellowish white (colloid?) spots in macular regions. Left eye, similar; less marked shrinking of retinal vessels.

Remarks: The appearances are those of postneuritic atrophy of the optic nerves, in the corresponding loss of direct peripheral vision.

The surgery of the lateral ventricles from this time on interested me very deeply.

Nov. 7, 1888, I read a paper[2] in which I proposed a formal operation to tap and drain the lateral ventricles, an operation which is now almost commonplace, but which then had not been reduced to the exact surgical technic which I formulated.

Jan. 11, 1889, on a boy, aged 4, with a tumor of the cerebellum, I first carried this operation into effect on one side.[3] For certain reasons there stated,[4] February 8, I tapped the opposite ventricle. On the thirty-second and thirty-fourth days after the first operation,

2. Keen, W. W.: Med. News, Philadelphia, Dec. 1, 1888.
3. Keen, W. W.: Proc. Philadelphia County Med. Soc., 1889, p. 50.
4. Keen, W. W.: Proc. Philadelphia County Med. Soc., 1889, p. 85.

I irrigated the two lateral ventricles from side to side, using 8 ounces of a warm 4 per cent. solution of boric acid. As soon as the warm solution began to flow freely through the brain, the child, who had been a little restless, quieted down, saying "it felt good." The choked disk had measured 2.3 mm. in each eye before the first operation; it subsided six days later to 1.09 mm. on both sides. He died on the fifty-second day.

In the same paper[3] I reported two other cases of tapping the ventricles.

At the International Medical Congress in Berlin, in 1890, I presented a complete paper on the surgery of the lateral ventricles, which was a study of ventricular surgery from the time of Paré to that date. Unfortunately, only an abstract has been published,[3] since the original paper was lost by the secretary of the Surgical Section.

I corrected seven instances of deliberate puncture of the ventricles, with two recoveries.

In fourteen cases of rupture of the ventricles from fracture and secondary opening of them (one of which was the present case), nine patients recovered.

I concluded, therefore, that such involvement of the ventricles was in no wise so dangerous as had been supposed, except when an abscess burst into a ventricle or a large hemorrhage into it took place. Instances of both of these conditions were cited. Every one was fatal.

Among all these and many other cases I did not find any one at all resembling the present one, nor have I ever seen any similar case reported since my paper in 1890.

1729 Chestnut Street.

CHRONIC MYOCARDITIS

A CLINICAL STUDY *

HENRY A. CHRISTIAN, M.D.
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Notwithstanding the insistence of many internists and the great interest in functional disturbances of the cardiac mechanism aroused by the information obtained from the use of the polygraph and electrocardiograph, there is still a marked tendency among physicians to stress unduly the importance of valve lesions of the heart. If one glances through the systems and textbooks of medicine, one gains the idea that various forms of valve lesions originating from chronic endocarditis form the chief cause of cardiac disease. The diagnosis and treatment of valve lesions bulk large in the chapters devoted to heart disease.

Scattered through the pages there is ample evidence that in the last analysis, muscle function determines cardiac efficiency or inefficiency, and various forms of chronic degeneration and interstitial inflammation of heart muscle are described. There rarely appears, however, a clear description of a common type of chronic cardiac disorder in which the fault is primarily in the heart muscle, and the valves themselves are normal.

In just the same way, textbooks of pathology fail to give any definite satisfactory description of this common type of cardiac lesion, probably because very often, as we shall see later, the heart muscle and the coronary system present no lesion that the pathologist can describe in objective terms.

* From the Medical Clinic of the Peter Bent Brigham Hospital.

A possible reason for this condition lies in the fact that usually the type of case I have in mind is merged with cases of organic mitral lesion under the heading "mitral insufficiency." This results from the fact that with myocardial disturbance, there is in most cases a mitral regurgitation from stretching of the mitral orifice, and such cases usually, though not always, have a systolic murmur at the mitral area.

I do not mean to imply that this type of case is not recognized, for it is, but its frequency and importance are not emphasized adequately. It is not likely that I shall add any new data to the clinician's store of information. What I wish to do is to emphasize the relative importance of a group of cases in which primarily the heart muscle fails and in which the valves are intact in the sense of showing no organic lesion. In describing my own experience with them, I may be able to change the usual views on the relative importance of different types of cardiac disease, and to bring out a somewhat clearer conception of what in my experience is a very frequent type of cardiac disease.

Such cases will be spoken of as cases of chronic myocarditis. This is the term commonly used; but it is a poor term, for it implies inflammation, whereas degeneration in the heart muscle is often found. Still worse for the term, the pathologist can frequently find no signs of inflammation or degeneration. If, however, we understand what is meant by the term, it does not make much difference after all, if it is a poor term in an etymological sense. Had I a satisfactory term to suggest, it is not probable that it would be adopted for general use, for new terms are accepted very grudgingly.

As I understand the present day clinical usage of the term "chronic myocarditis," it means a group of cases in which the heart has failed to function properly and the patient has the symptoms and signs of cardiac insufficiency or decompensation. The disturbance is muscular, for the valves show no organic change. Sometimes at death, an increase in interstitial connective tissue is found. At other times, the heart muscle shows degeneration of varying types. Not infrequently the pathologist is unable to find any lesion in the heart muscle, either in gross or after microscopic study. In some cases, the coronaries are sclerosed; in others they are normal. Not infrequently the pathologist finds no cause for the cardiac failure.

It will be recalled that Cabot, in correlation of clinical and pathologic diagnoses, said that in 52 per cent. of the cases diagnosticated during life as chronic myocarditis no such lesion was found at necropsy, and in only 22 per cent. of the cases did the clinical and the pathologic diagnosis agree. To my mind this merely means that the clinician and the pathologist talk a different language and their terms cannot be compared. The patient dies because the heart muscle fails to do its work. The clinician calls such a condition myocarditis, not meaning necessarily inflammation of the myocardium. That the pathologist cannot find any lesion in the heart muscle does not prove the soundness of the muscle but merely the inadequacy of the methods of pathology as far as they fail to show cause for a functional defect.

According to Cabot, many mistakes are made in the clinical diagnosis of chronic myocarditis when the clinical work is checked by the pathologist. In my own experience from a clinical study of the patient, there are few conditions in which we make mistakes

so seldom as in this group of cases. Before necropsy I can say of any of them, "This is a case of chronic myocarditis," meaning thereby, cardiac failure due to myocardial insufficiency without organic valve lesion; and I can prophesy that the pathologist will find an enlarged heart with valves showing little or no chronic endocarditis, that is no thickening or distortion, and the various viscera will show changes subordinate to or secondary to the cardiac failure. Sometimes the heart muscle will show lesions; at other times, not even miscroscopic study will reveal any. Sometimes the coronary arteries will be markedly sclerosed; at other times, they will seem normal. The lesions found in the heart are not at all constant. I was once a pathologist myself, and so the pathologists may pardon my saying that they can offer no satisfactory explanation in an objective sense of what has been observed at the bedside, namely, cardiac failure. Thirteen years ago as a pathologist, I could not satisfy the curiosity of the clinician. Today the pathologist and the pathologic literature are unable to answer my query, "Why has the heart failed?"

CLINICAL OBSERVATIONS

As to the frequency of such cases, in 1917 in my wards at the Peter Bent Brigham Hospital I studied 230 cases of chronic cardiac disease. Of these, 120 were positively diagnosed as chronic myocarditis and five questionably so, while 105 were regarded as cases of chronic valvular disease. Of course among the 105 patients with chronic valvular disease, many had myocardial insufficiency; but this is included in the diagnosis, chronic cardiac valvular disease, and the term "chronic myocarditis" is used only for the patients with cardiac insufficiency, in whom we believe that there is no organic valve lesion. In 1916 the figures were proportionately the same, 156 cases being positively diagnosed as chronic myocarditis and 141 as chronic cardiac valvular disease. In 1915, the figures were 91 and 113, respectively, a total of 367 chronic cardiac cases without organic valve lesion and 359 with organic valve lesion in three years. The diagnosis of simple or uncomplicated mitral insufficiency of organic origin is made relatively infrequently: thus, in 1917, there were ten cases, including three doubtful ones out of a total of 105 with organic valve lesion; in 1916, there were twenty-four cases with seven doubtful ones out of a total of 141, and in 1915 there was a total of twenty-eight out of 113. These figures show an increasing conservatism with regard to diagnosing organic mitral insufficiency. So, looking on chronic cardiac disease from the point of view that I have expressed, in a general adult medical clinic among patients with the symptoms of chronic cardiac disease who are suffering from chronic myocardial disturbance, we see more patients without than with signs of organic valve lesion.

Perhaps our clinic may be unduly conservative in regard to making the diagnosis mitral insufficiency unaccompanied by stenosis. As I have already stated, postmortem examination usually has agreed with the bedside diagnosis in this respect. In forty-two necropsies clinically of this group, the pathologist described very slight thickening of the mitral valve in five and considerable thickening in five, while in thirty-two the valve flaps were not thickened, and the valves seemed in every way normal. Moreover, a study of all our postmortem material, without any reference to antemortem diagnosis, confirms the view that organic mitral disease in older people is relatively infrequent, and when it does occur, stenosis as well as insufficiency is usually present. Dr. Levine, a former assistant,[1] analyzed from our records 247 consecutive postmortem examinations with reference to organic mitral lesions. One hundred and seven, or 41 per cent. of these patients, were over 50 years of age, and of these only two had definite chronic mitral endocarditis, while of 154 under the age of 50, twenty-one had definite chronic mitral endocarditis. This is further justification for conservatism in diagnosing pure mitral insufficiency of organic origin, particularly in older people, in whom we shall see later chronic myocarditis occurs oftenest.

Since the opening of the Peter Bent Brigham Hospital in the spring of 1913, up to Jan. 1, 1918, we have had for study 407 patients, in whom we considered that a cardiac insufficiency was of myocardial origin without organic valve lesion—in the sense of our definition, cases of chronic myocarditis. Of these, 240 were males and 167 females. One hundred and fifteen of these were in the hospital more than once, and many remained in the wards for long periods of time. In all but relatively few there was ample opportunity for careful study of the cases. According to age incidence, the largest number, 143, came in the decade from 51 to 60. In the preceding and succeeding decades, the number was smaller, but about the same number occurred in each of these decades, as shown in the accompanying table. All but forty-one occurred in patients over 40 years of age.

AGE INCIDENCE OF MYOCARDIAL PATIENTS

Age at admission	Male	Female	Total
Below 30	5	4	9
From 31 to 40	17	15	32
From 41 to 50	53	40	93
From 51 to 60	84	59	143
From 61 to 70	52	34	86
Over 71	29	15	44
	240	167	407

ETIOLOGY

The relation of rheumatism and of syphilis to myocarditis is of interest. Of the total of 407 patients, 112 (seventy-four males and thirty-eight females) gave a history of an antecedent rheumatism. Among these, the time relation of the rheumatism to the onset of symptoms showed that fifty-nine had rheumatism within 10 years of their admission for cardiac disease, while thirty had it 25 or more years beforehand. The age of the patients when they had had rheumatism was as follows: from 1 to 10 years, three cases; 11 to 20, ten cases; 21 to 30, sixteen cases; 31 to 40, twenty-two cases; 41 to 50, twenty-one cases; 51 to 60, twenty-three cases; 61 to 70, ten cases; 71 or more, six cases. It is to be noted that sixty out of 112 patients who gave a history of rheumatism were over 40 years of age when they had rheumatism. This makes it improbable that many of these were patients with acute rheumatic fever. Rather it indicates that of those giving a history of rheumatism, more than half in all probability had the arthralgia or chronic arthritis so common in adult ages. This view is further borne out by the fact that of those admitted to the hospital on account of the cardiac decompensation of chronic myocarditis over the age of 50, twenty-nine out of thirty-nine had their rheumatic symptoms within five years of their admission, and many of these a short time before. Few, if any, of these could

1. Levine, S. A.: Am. Jour. Med. Sc., 1917, 154, 43.

have had acute rheumatic fever. When these deductions are made, it seems probable that only relatively few of our 407 patients with chronic myocarditis could have had acute rheumatic fever, and so rheumatism in this sense played but a small part in the etiology of this group of cases of chronic myocarditis.

As to syphilis, in order to have constant criteria, the Wassermann reaction has been taken rather than a history of syphilis. The possibility of failure to include those who have had syphilis as judged by history, and the possibility of error of observation in the technic of the Wassermann reaction, are fully recognized; but on the whole, the Wassermann reaction would seem to offer the best grounds for estimating the importance of syphilis as an etiologic factor in these cases. Among a total of 369 patients in whom the reaction was tested, the Wassermann reaction was positive in thirty-five and negative in 334. In only thirty-eight patients was it not tested. The small number of patients with positive reaction is very striking when it is recalled that these were in large part public ward patients, among whom the incidence of syphilis as measured by a positive Wassermann reaction is large. In fact as this percentage of our chronic myocarditis patients is a little less than the average incidence of syphilis for all admissions to our wards, this incidence of syphilis might be regarded as a coincidence. Certainly the figures indicate that syphilis has played a very small rôle in the etiology of this group of cardiac cases, a fact that seems surprising when it is recalled how extensive a part vascular lesions play in the syphilitic process.

Alcohol has been suggested as a cause of myocardial insufficiency. Of our patients, 239, or slightly more than half, admitted the use of alcohol; and in 111 of these, there appears to have been a tolerably chronic use of alcohol. In those admitting the use of alcohol over long periods, directly or indirectly, the alcohol may have been a causative factor. Of this there is no definite proof. If a causative factor, it explains slightly more than one third of the cases. As to its real significance in the group, I feel doubtful.

Disturbances in thyroid activity most certainly lead to myocardial disturbance. Goiter or history of hyperthyroidism, however, was extremely infrequent in our cases and could have been a cause in extremely few of them.

Another factor in producing this condition that should be considered is hypertension. Out of 398 patients in whom satisfactory blood pressure observations were recorded, we found the systolic pressure 150 or lower in 148 patients, from 150 to 170 in seventy-two, and over 170 in 178. As far as etiology of the cardiac failure is concerned, hypertension can play a part in considerably less than one half, for it is not likely that a pressure under 170 would be of any great significance in producing myocardial insufficiency and myocardial lesions from overwork. Even in some of these patients, hypertension is probably a coincident, not a causative factor in the cardiac breakdown. Anyhow, hypertension cannot be regarded at most as a very common cause of chronic myocarditis, though it may be expected in a considerable proportion of the cases.

Chronic nephritis has been looked on as a causative factor in chronic myocarditis. Undoubtedly in some cases of hypertension the primary cause of the high blood pressure lies in a chronic renal lesion, and in such the renal lesion may be considered as a causative factor in the myocarditis. As our functional studies of the kidney have shown, however, very often the hypertension is primarily of vascular origin and the renal lesion is secondary to the high blood pressure and underlying vascular lesion. Then in other cases, renal and myocardial disturbance may have a common cause. Again it is not easy to say whether or not nephritis exists in a given patient with myocardial insufficiency. Very often casts and albumin will be found, but their origin may be in large part in the chronic passive congestion of the kidney. In our experience, very often these patients with decreased urinary output, albuminuria and cylindruria show a marked degree of renal efficiency, as indicated by the phenolsulphonephthalein excretion and by a diuretic response to stimulation. That such a kidney shows enough nephritis to have been a factor in the etiology of the chronic myocarditis seems improbable. Examination of our records shows that, in 202 of the total of 407 patients with chronic myocarditis, there seemed enough renal disturbance to justify the diagnosis of chronic nephritis. My opinion is, however, that in many of these the renal lesion was secondary to or coincident with the cardiac rather than causative. Our postmortem examinations usually have revealed a type and extent of renal lesion that is in accord with this view. In seventeen out of forty-one necropsies, the kidneys were free from chronic nephritis, though showing chronic passive congestion. In nine out of the forty-one, the kidneys were of the arteriosclerotic type, while in only fifteen was there definite chronic nephritis. In only the last group would it seem likely that the renal lesion could have had any causal relation to the cardiac; and even in these, the two processes well might have been coincident.

The incidence of arteriosclerosis in the group is more difficult to judge. For its determination we have available routine observations of peripheral arteries, often only the radial. It is recognized, however, that arteriosclerosis is of irregular distribution and may be present in one group of vessels and not in another. Unless it is accompanied by hypertension it would not seem probable that sclerosis elsewhere than in the coronary arteries could have much influence on the heart muscle, and its presence in peripheral vessels is too unsatisfactory an indication of coronary sclerosis to help in forming a judgment as to the condition of the coronaries. So it hardly seems of value to tabulate clinical observations on peripheral arteries as evidence of the condition of the coronaries. Of these cases, however, forty-three came to necropsy, and twenty-one of the forty-three showed quite definite coronary sclerosis, which was moderate in nine and marked in twelve, while in twenty-two the coronary vessels were relatively normal, that is, they showed no sclerosis or only a few patches of moderate change.

Overeating with resultant overweight or a pathologic obesity is usually considered a possible causative factor in this type of heart disturbance. In our group of cases, 188 out of 393 patients appear to have been overweight, and of those a considerable number were obese. From these figures it appears that a little more than one half the patients were not fat in any sense of the word, and quite frequently these patients were of the thin type. My impression is that obesity was not marked enough to have been a possible causative factor in more than one third of the cases studied at the Brigham Hospital, and in these, of course, it may have been only coincident.

The rôle played by focal infection in causing myocardial disturbances is uncertain. Many, in fact very many, of these patients had had bad teeth with marked pyorrhea alveolaris; decayed root stumps and undoubtedly alveolar abscesses were common. We are only too familiar with the rotten mouth conditions of our ward patients, whatever their disease. Bad teeth are common enough in the myocarditis patients to be an important causative factor, but they are so common in all hospital patients that I feel skeptical as to their etiologic relation to the myocardial group.

In the heart muscle the pathologist found an increase of interstitial connective tissue in twenty-seven out of forty hearts carefully described. Here examination was not exhaustive enough to exclude smaller foci of connective tissue increase, and in the twenty-seven in which it was found the connective tissue very often was only moderately abundant, or the definite patches occupied only a small part of the myocardium. Very often, too, as much or more connective tissue is found in the hearts of older people who, during life, gave no sign of cardiac insufficiency. So, after all, these foci of connective tissue may have no causative relation to the insufficiency. In eight hearts the muscle seemed normal, while in four only moderate fatty degeneration was seen. In one case amyloid degeneration was present.

Electrocardiography is an important method of determining cardiac disturbances which indicate myocardial lesions either functional or organic. In the 407 cases of this group, electrocardiograms were made on 328 patients, with the following results: Thirty patients showed normal curves. Simple left-sided preponderance occurred in eighty-three patients, and right-sided in ten. Thirty-eight patients showed left-sided preponderance with premature or ectopic contractions oftenest having origin in the ventricles, while only one showed right-sided preponderance with ectopic beats. This is as might be expected, 121 with left-sided hypertrophy in contrast with eleven showing right-sided hypertrophy. Sixteen patients had ectopic beats without showing the complex of either left or right-sided muscle preponderance.

Auricular fibrillation occured in ninety-six, and auricular flutter in nine patients. In these, with very few exceptions, left-sided muscle preponderance occurred. In many, ectopic beats were also present. In forty-one cases the electrocardiogram showed the widened or distorted ventricular complex, indicating disturbance in the conduction mechanism, either block in the right or left main stem or more probably degeneration changes involving smaller subdivisions of the conduction system. Here only, more marked changes in the ventricular complex were counted. Slighter degrees of widening or distortion of ventricular complexes occurred in other patients. These are undoubtedly of considerable significance, and will be discussed in a paper by Dr. Howard F. West.

Paroxysmal auricular tachycardia occurred once, paroxysmal ventricular tachycardia once, and sino-auricular block once. In two cases, complete auriculo-ventricular block was the chief disturbance noted. The patients with auricular fibrillation, auricular flutter and distortion of the ventricular complex, 146 in all, represent from an electrocardiographic point of view the patients with the most serious muscle disturbance, and they form a considerable proportion of the total of 328 studied electrocardiographically. The finding of these changes in the electrocardiogram helps in the diagnosis of this type of case, but it is evident from our figures that often the electfocardiogram shows no change indicative of serious myocardial disturbance, even in patients with badly decompensated hearts; for almost every one of our patients was of the type requiring hospital bed treatment and so represented advanced steps of the disease. Unfortunately our records do not contain enough polygraphic tracings to justify any opinion as to the frequency of pulsus alternans in this group of cardiac disturbances.

Physical signs in these patients are quite characteristic, though there are no pathognomonic signs. The heart is usually enlarged, often markedly so. Hypertrophy occurs by far the most frequently in the left ventricle. Cardiac sounds are not characteristic. Gallop rhythm and tic tac quality are found, but frequently they do not occur. A systolic murmur is frequent, usually loudest at the apex. It varies all the way from a soft blowing murmur to a loud and harsh, or a musical one. In some cases no murmur is heard. In my opinion, the quality or intensity of the murmur is no criterion as to whether there is an organic valve lesion or merely a dilated valve orifice. In the same way transmission of the murmur is of no significance. Given an enlarged heart and any sort of a systolic murmur at the apex in a patient over 40 with decompensated heart, the probability of there being an organic mitral insufficiency is very small. In my opinion, the systolic murmur is the least significant physical sign in this group of cases. The apex impulse usually is diffuse, often not forcible. Very often there is a marked discrepancy between visible pulsation and the palpable heave of the apex region. It is surprising sometimes to feel so weak a thrust from a heart markedly enlarged and to the eye beating forcibly. With the heart condition goes the sign of decomposition—chronic passive congestion of the viscera and edema.

Roentgen-ray silhouette of the heart is not characteristic. Most often it shows well the left-sided enlargement. A number of times, I have seen the heart shadow of a globular form. These hearts are sometimes diagnosed by the roentgenologist as pericardial effusion.

With rest in bed and digitalis, the patients can make most surprising improvement. It is a group in which digitalis is very efficient, whether auricular fibrillation is present or not. Diuretics here have their most efficient action. A waterlogged patient of this group may lose 20, 30, 40 or even 60 pounds of fluid in a week's time and have most of his symptoms disappear. Of course there is a marked tendency for them to recur, especially after return to work; and with recurrence, cardiac response to digitalis becomes less, until the stage is reached when under digitalis the heart progressively deteriorates and no therapy will stay the progress of the disease.

As to what really produces this type of cardiac insufficiency we are ignorant. Various theories have been advanced to explain how minor lesions by position might lead to serious cardiac disturbance. After critical examination these theories, however, seem unsatisfactory. Our clinical studies fail to show any constant cause, and in some cases even after careful pathologic study, the condition of the heart remains inexplicable. Further study of these patients during life and after death is certainly needed before we can have any adequate understanding of the mechanism and the causes of the condition.

SUMMARY

There is a common chronic cardiac condition, in a general hospital for adults equal in frequency of occurrence to chronic valvular disease of the heart, which, for want of a better term, may be called chronic myocarditis. By this term is meant cardiac insufficiency from myocardial disturbance without organic lesion of the heart valves. A very large proportion (366 out of 407) of these patients on admission to the hospital, are over 40 years of age, and somewhat more are men than women. The heart is nearly always enlarged, and usually there is a systolic murmur at the apex; but whatever its intensity or transmission, it is very rare to find any thickening or distortion of the valve flaps or chorda tendineae. Acute rheumatic fever and syphilis are both relatively uncommon in these cases, and neither plays any considerable part in the etiology. Chronic use of alcohol occurs in about one third of the cases. High blood pressure is often found, but is absent in more than half of the cases. Chronic nephritis is often present, as is hypertension; but in seventeen out of forty-one cases at necropsy, the kidneys showed no chronic nephritis. Coronary sclerosis is an important factor in only about half of the cases. Increase of interstitial connective tissue is the lesion most found in the heart muscle, but in numerous cases the heart muscle seems practically normal except for hypertrophy of the fibers. Electrocardiography often gives evidence of disturbed muscle function. About half the cases show auricular fibrillation or flutter or the distortion of the ventricular complex, indicating some disturbance in the conduction system; but in even advanced cases the electrocardiogram often shows no significant disturbance. Digitalis in the earlier breaks in compensation is a very efficient drug, and diuretics produce marked diuresis.

HYPERTROPHIC PYLORIC STENOSIS IN A TWO YEAR OLD CHILD

REPORT OF A CASE*

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LOS ANGELES

In a survey of the literature for cases of hypertrophic pyloric stenosis, we find very little mention of cases after the second or third month. The first reported case is the famous one of Beardsley,[1] in which a boy showed symptoms shortly after birth, and up to his death at the age of 5 years.

Shaw and Elting[2] in 1904 reported a case in which the patient showed symptoms from the seventh or eighth month but was not operated on until the age of 16 months. The child lived.

Arreger, quoted by Osler,[3] reported a case in a child of 5 years, and Rosenheim, quoted by Holt,[4] reported a case in which the patient had had no symptoms until he was 3 years old, and at the age of 5 years had had the first marked symptoms. He had not been operated on, however, until he was 6½ years old.

All the references mention cases occurring at the usual age, or in young adults. Therefore, I thought my case would be of interest, because of its rarity, but I offer no hypotheses or theories.

REPORT OF CASE

J. B., a boy, aged 22½ months, Jewish, was brought to the observation cottage of the county hospital, July 22, 1917, with a complaint of vomiting, loss in weight, and extreme restlessness.

He was the youngest of five children, the first of whom had died when 3 days old, the mother having convulsions. The second child, who was 8 years old, was well, but not strong. The third had died "of abscess in the head" at the age of 21 months. The fourth, who had been bottle fed, had died at the age of 5 months. The mother had died from tuberculosis three months previous to consultation, aged 26. The father was living and well.

The first three months at home, the child had been fed oatmeal water and cow's milk. There had been no history of vomiting. The child had had some colic, but had seemed healthy and strong, and had gained in weight. There had been a good deal of constipation, but milk of magnesia had corrected this. Then the child had been put out to board with two or three different women. When 10 months old, he was very skinny, and had a good deal of gas. He was teething at the time, and vomiting a little, but gained rapidly in weight under careful diet. No further trouble had occurred until he was about 15 months old, when he was given a banana, which he had vomited. During these months he had whooping cough. He had been in the Jewish Orphans' Home for a time, but there had been no history of vomiting there. About a month before I saw the child, he had become nauseated one evening after supper. A physician from the neighborhood was called, who gave him a hypodermic injection to produce vomiting. The next day the child was taken to the Children's Hospital, where he was kept for three days. He vomited occasionally, but developed no serious symptoms, and no diagnosis was made. After going home, he was well for two days, when he started to vomit again. Another physician saw him a few times, and advised that he be taken to the county hospital. No diagnosis was made on this occasion. At the hospital it was learned that three weeks previously, the child had been seen chewing firecrackers, but whether or not some of them had been swallowed was not known.

Physical examination was negative except in the abdomen, which was scaphoid with visible peristaltic waves, but with no palpable tumor. While in the observation cottage at the county hospital, a fluoroscopic examination was made, but nothing was seen to pass through the pylorus.

Tincture of belladonna, 4 drops every four hours, was ordered, and 4 ounces of undiluted milk once in from three to six hours. Sometimes this was retained and other times vomited. Nutritive enemas were given, some being retained and some not. The temperature varied from 101 F. on entrance, to normal.

When the child was transferred to the children's ward, July 25, three days after entrance, the same findings as in the observation cottage were noted.

Stomach washings of soda followed by gavage of barley water and egg albumin every six hours gave relief, and the food was retained. The first washing brought up a greenish brown fluid with a foul odor. After some of the washings, only half as much water was returned as was used in the washing, at the other times nearly twice as much. The gavages at first seemed to satisfy and quiet the child, but later they did not. The enemas brought forth small, brown, liquid stools. The child kept getting weaker, and on the twenty-eighth day, three days after entrance to the children's ward, and six days after entrance to the hospital, it was deemed advisable to operate. Dr. Henry Dietrich saw the patient in consultation, and concurred in pronouncing the case operable, but reserved his diagnosis.

The operation, performed at 7:30 o'clock p. m., July 28, by Dr. W. L. Huggins, revealed a typical hypertrophied pylorus such as is seen in congenital pyloric stenosis. Expos-

* Read before a clinical staff meeting, at the Los Angeles County Hospital, May 6, 1918.

1. Beardsley, H.: Arch. Pediat., 1903, **20**, 355.
2. Shaw, H. L. K., and Elting, A. W.: Arch. Pediat., 1904, **21**, 892
3. Arreger, quoted by Osler, William: Modern Medicine, 1908, **5**, 304.
4. Rosenheim, quoted by Holt, L. E.: Hypertrophic Stenosis in Infants, THE JOURNAL A. M. A., May 26, 1917, p. 1517.

ing the pylorus, the incision was made longitudinally down to the mucosa (Rammstedt), and revealed the same cartilaginous texture seen in typical hypertrophic pyloric stenosis. The mucosa was accidentally nicked at the stomach end, so a pair of forceps were inserted in the pylorus, but nothing was found to account for the obstruction other than the thickened tissue. The closure was a modified pyloroplasty and the usual abdominal tier closure.

The child was returned to bed in a fair condition, but with a very weak pulse. The rectal drip of glucose and sodium bicarbonate was started. The child vomited some greenish yellow fluid and was very restless. The drip was repeated during the night. The restlessness increased.

At 5 a. m. the following day, the temperature was 101.6; the pulse 106, and respiration, 78. At 8 a. m. the temperature was 106.2, the pulse 180, and respiration 84. At 11 a. m., the pulse was very weak. The temperature was 104.6, the pulse 180, and respiration 80.

Five hundred c.c. of physiologic sodium chlorid solution were given by hypodermoclysis. The child died at 1 p. m. No postmortem was held.

COMMENT

The operative findings were very much of a surprise, as clear symptoms of pyloric stenosis are very uncommon in children the age of this one. Children are difficult subjects on whom to do a fluoroscopy, as they are usually very restless and easily frightened.

I feel that if the operation had been done sooner, before such a marked state of exhaustion had taken place, we might have saved the child; but we delayed too long. On the other hand, he seemed somewhat improved with the washings and gavages, and we thought we were dealing with a pylorospasm.

Medical history records cases in which pyloric stenosis has been found by the operator on opening the abdomen for other conditions. The fact that there have been a number of cases reported in young adults shows that the condition may obtain for months or years with very mild symptoms, or none at all.

1501 South Figueroa Street.

REPORT OF A CASE OF PSEUDOLEUKEMIA INFANTUM (VON JAKSCH'S DISEASE)

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Since von Jaksch first called attention to the association of splenomegaly with anemia in children, a number of similar cases have been studied under the name of von Jaksch's disease. But as most of the cases reported differ in their clinical features and pathologic findings, the existence of the condition as a distinct disease of the blood is still a matter of dispute. Pseudoleukemia infantum is now defined as a rare disease of childhood, characterized by a severe anemia, marked enlargement of the spleen, some enlargement of the liver, and a chronic course with one or more relapses. The anemia is the most constant feature of the disease. It presents the combined blood picture of pernicious anemia and leukocytosis or lymphocytosis. While splenic enlargement is said to be an important diagnostic finding, it cannot be so considered in this country, where chronic malarial spleens are common among the children. The more common children's diseases, notably rickets, gastro-enteritis, and to a lesser extent hereditary syphilis, are found in association with von Jaksch's disease. This has caused some observers to attach etiologic importance to these diseases; but the matter has yet to be proved.

REPORT OF CASE

History.—W. B., boy, aged 2 years, born in Panama, of Martiniquan parents, admitted to Hospital Santo Tomas, Jan. 4, 1917, with a history of diarrhea, drowsiness, vomiting, loss of appetite, general weakness and a gradual change in color, which the mother described as "turning yellow," had been ill for an indefinite period, probably several months, but the condition became aggravated, a few days prior to admission, with cough and fever. The past medical and family histories were negative. The temperature on admission was 40.2 C. (104.3 F.); pulse, 130, and respiration, 36.

Physical Examination.—The patient was well developed. He appeared to be comfortable but was somewhat dull and unresponsive. Slight scleral jaundice was present. All superficial lymph nodes were enlarged. The head was square with the anterior fontanel open. The mucous membrane of the lips and mouth was of a peculiar yellowish pallor. There were but five upper teeth, no lower teeth being present. Nodular projections were found on both sides of the costrochondral junction. There were some scattered, moist râles over both lungs. The heart was negative. The upper limit of splenic dulness extended to the sixth interspace in the midaxillary line. The lower border of the spleen extended 1 inch below the left costal border in the anterior axillary line. The lower edge of the liver was palpable half an inch below the right costal border. The lower extremities showed a moderate degree of bow-leggedness. The knee jerks were increased.

Laboratory Reports.—The urine was negative. The stools showed a few pus cells; otherwise they were negative. Blood examination, Jan. 6, 1917, for which deep puncture and some pressure were necessary to obtain a fair sized drop, revealed: erythrocytes, 1,440,000; leukocytes, 22,000; hemoglobin, 25 per cent.; color index, —1; differential count: polymorphonuclears, 42 per cent.; small lymphocytes, 37 per cent.; large lymphocytes, 8 per cent.; large mononuclears, 8 per cent.; transitionals, 4 per cent.; mast cells, 1 per cent. Poikilocytes, nucleated reds, both large and small, stippling, etc., were present in large numbers. No malarial organisms were found. Repeated blood examinations showed the average number of erythrocytes to be about 1,600,000, with many nucleated cells and other pathologic elements. The leukocytes varied in number from 22,000 to 25,000, of which about 50 per cent. were lymphocytes. The fever was at no time affected by quinin.

Clinical Course.—There was no change in the patient's general condition for the following ten days. During that time, the temperature was of a septic type, at times, reaching as high as 40 C. (104 F.) in the evening with a daily variation of from 2 to 2.5 degrees C.

January 14, slight improvement was noted. During the following twelve days the temperature remained approximately normal. The general nutrition was improved and the jaundice practically disappeared.

January 18, the erythrocytes numbered 3,200,000, the leukocytes 8,000. Nucleated reds were rare, but stippling and poikilocytosis persisted to some extent.

January 25, a relapse to the original condition occurred.

February 16, the child was in a semiconscious state, scleral jaundice being deeper than at any time during the disease. Respiration was rapid, with numerous, moist râles on both sides of the chest. The abdomen was distended with easily detectable flank dulness. Blood examination at this time revealed nothing unusual, except that the leukocytic count reached the high mark of 42,000.

Throughout the course of the disease it was observed that any improvement in the child's condition was accompanied by an increase in the number of erythrocytes and a diminution in the pathologic elements of the blood and in the number of leukocytes, whereas a relapse was followed by an increase in the number of leukocytes and a decrease in the number of erythrocytes. This would indicate that both the

anemia and the leukocytosis were due to the same pathogenic agent.

Feb. 18, 1917, the child died.

Necropsy Report (2584).—The body was that of a well nourished child about 3 years of age. A mucopurulent fluid was running from both nostrils; the tonsils were not enlarged; five upper teeth, and no lower teeth were present; the sclera of both eyes was jaundiced; the muscles were well developed.

Abdomen: A small quantity of a straw colored fluid was present in the abdominal cavity. The appendix was normal. The urinary bladder was distended. The stomach was small and contracted. The mucous membrane was covered with a whitish mucoid material. The rugae were prominent and obliterated with difficulty. The gall-bladder was distended, but emptied easily. There was no evidence of any peritonitis.

Thorax: When the sternum was removed, the lungs collapsed. The right lung had four lobes and the left three. Both lungs crepitated throughout and contained no tubercles. The lower lobe of the left lung was congested. On section it was edematous, and the bronchioles contained a yellow purulent fluid. This lobe appeared to be jaundiced. The middle lobe was deeply congested and appeared to be pneumonic. The cut sections sank in water. The lower lobe had the appearance of bronchial pneumonia.

Heart: This was enlarged, and the right side was dilated and filled with a goose fat clot. The musculature was flabby. The pericardium was edematous.

Spleen: This was enlarged, firm and deep blue. The capsule could not be stripped easily. The pulp was very dark red and not very friable. The normal markings were absent.

Kidneys: These were slightly enlarged, and pink. The capsule stripped easily, leaving a smooth surface. On section the organ was yellowish pink. The cortex was about normal in size. Around the papillae there was a zone of yellowish discoloration.

Liver: This was normal in size, and brownish. On section the tissue was markedly bile stained. The hepatic vessels were engorged with blood.

Head: The anterior fontanel was open. When the calvarium was removed, fluid ran out. The cortex was markedly edematous, very soft, flabby and anemic. The ventricles were filled with a clear fluid.

Anatomic Diagnosis.—The diagnosis was: marked anemia of the brain; bronchitis; left sided bronchopneumonia; congestion of the liver; splenic tumor, and general anemia.

The pathologic report of the Board of Health Laboratory, Ancon Hospital, was as follows: There was an extreme fatty metamorphosis of liver, kidney and heart. The blood sinuses of the liver, spleen and kidney contained an abundance of micro-organisms that were, perhaps, postmortem invaders. There was passive congestion of the liver and spleen. No spirochetes were found in any of the tissue. Nothing was found to indicate the etiology of the disease present.

Treatment.—In addition to the general hygienic measures, quinin, solution of potassium arsenite (Fowler's solution) and syrup of ferrous iodid were given a fair trial but proved useless.

Balance Between Food Fuel and Work.—A British scientific commission has reported that if the workman be undernourished he may, by grit and pluck, continue his labor for a certain time, but in the end his work is sure to fail. It makes no difference what the nutritive condition of the person is, if a certain job involving muscular effort is to be done, it always requires a definite amount of extra food-fuel to do it.—Lusk, Food in War Time.

Military Medicine and Surgery

AGGLUTININ RESPONSE AFTER ARMY TRIPLE TYPHOID VACCINATION*

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The efficiency of typhoid vaccination in the United States Army, as developed by Colonel Russell, is now a matter of history. That typhoid inoculation results in the production of an effective immunity over a considerable period of time has long since been proved, both experimentally and clinically. On the one hand, agglutinin and bactericidal experiments, and on the other, the vital statistics of the Army since the typhoid inoculation became an order, are quite conclusive.

The history of paratyphoid and the mixed inoculations is now being made. There is little reason to doubt that they will be as successful as the typhoid inoculations. To determine to what extent specific agglutinins for the three types of organisms used by the Army were produced by the men inoculated, at the suggestion of Lieutenant-Colonel Whitmore, the series of cases here summarized were studied. The series included men who had had no typhoid or paratyphoid and no vaccination, and men who had had the commercial vaccine, either typhoid or mixed, at a variable time previous to the Army vaccination.

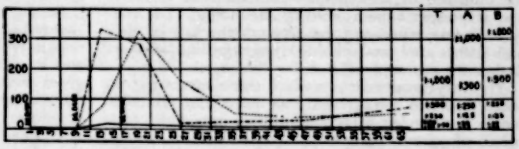

Chart 1.—Typhoid vaccine, June, 1915. Mixed commercial vaccine, July, 1916. Army vaccine, September, 1917. First injection, slight headache, slight local reaction; highest temperature 99 F. Second injection, severe headache, nausea and vomiting, slight diarrhea, slight pain in abdomen; local reaction slight; highest temperature, 103. Third injection, headache, dizziness, with slight local reaction; highest temperature, 102.6. In the charts the solid line represents typhoid, the line of dots and dashes paratyphoid A, and the line of short dashes paratyphoid B.

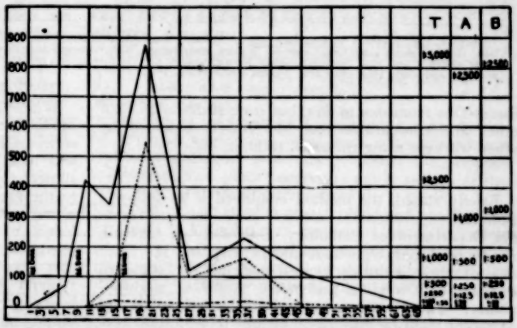

Chart 2.—Triple commercial vaccine, 1916. Army vaccine, September, 1917. First injection, no general reaction, slight local; highest temperature, 99 F. Second injection, no general, slight local reaction; highest temperature, 99.2. Third injection, no general, almost no local reaction; highest temperature, 99.

* From the Department of Pathology, Army Medical School.

This work, then, demonstrates that agglutinins are produced, not only for typhoid, but for paratyphoid A and paratyphoid B as well; it offers an opportunity to see the relationship between local and general reactions, and the antibodies produced; it offers an opportunity to study the bearing a previous inoculation has on the production of agglutinins.

The accompanying charts are almost self-explanatory. They are the more typical and instructive of a group of thirty, and represent graphically the variations of the typhoid and paratyphoid agglutinins under the influence of antityphoid vaccination, as formerly and at present administered by the Army. The continuous line represents the typhoid, the line of dots and dashes the paratyphoid A, and the line of short dashes the paratyphoid B.

The varying altitudes to which these curves rise on successive days is expressed, not directly by dilutions, but by the number of agglutinin units per cubic centimeter of serum, determined by the Dreyer method. These charts are therefore not only comparable within themselves from day to day, but comparable with each other and comparable with the results obtained by other workers using the same technic.

The method of administering bacterial vaccines in use by the Army at the time these studies were begun was as follows: The first dose consisted of 500 million typhoid. The second dose on the fourth day following consisted of 375 million paratyphoid A, plus an equal number of paratyphoid B. On the fourth day following, 1,000 million typhoid were given. On the fourth day following this, 750 million each of paratyphoid A and B, were given. Four days later the final typhoid dose of 1,000 million was given and again in four days the final paratyphoid A and B dose of 750 million was given.

During the course of these studies the method was changed so that the first dose contained, combined, 500 million typhoid and 375 million each of paratyphoid A and B. The second dose of double the amounts was given seven days later. The third dose, identical with the second, was given seven days later. Some of the accompanying charts represent some of the first routine cases under the new method at the Army Medical School.

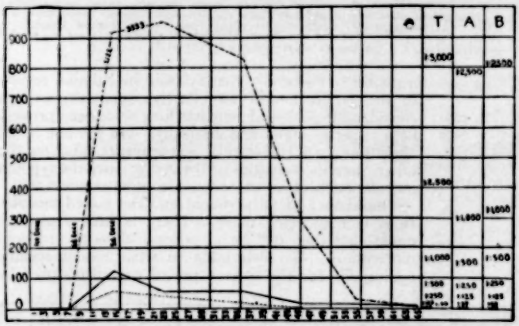

Chart 3.—No previous vaccination. Army vaccine, September, 1917. First injection, slight systemic and local reaction; highest temperature, 99.8. Second injection, slight systemic and local reaction; highest temperature 99.8. Third injection, moderate systemic and slight local reactions; highest temperature, 100.0.

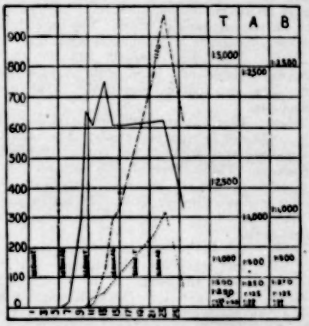

Chart 4.—No previous vaccination. Army vaccine, July, 1917. Severe local and general reaction after second paratyphoid A and B. Moderately severe general reaction after the second typhoid. Otherwise the reactions were negligible.

METHOD

Briefly stated, the method employed is as follows: Standard agglutinable cultures were obtained from the Department of Pathology, University of Oxford, for typhoid, paratyphoid A and paratyphoid B. Each one of these cultures represented one of standard opacity, with a given and noted factor of agglutinability. These cultures were formaldehyd killed and of recent manufacture. The serums to be tested were set up in macroscopic agglutination tubes, in dilutions with physiologic sodium chlorid solution ranging from 1:25 to 1:5,000. To each of the tubes was added a constant quantity of the standard culture. The tubes were then placed in a water-bath at 55 C. for two hours, allowed to cool for fifteen minutes, and read for the highest dilution in which agglutination, visible to the naked eye, occurred without sedimentation. The dilution of the serum in this tube was then divided by the known factor of the culture used, resulting in the units of agglutinins per cubic centimeter of serum. These units were then charted.

When I was ordered to my station at the Army Medical School, I continued the observations in a series of six cases, begun by Dr. W. C. Davison, who was unable to continue them through his change of station. At the same time I added several new cases to the group. These studies were at that time interesting, not only in that they gave some idea of the height to which the typhoid agglutinins were developed, but also in that they gave positive information that very definite quantities of agglutinins for paratyphoid A and particularly for paratyphoid B were being produced. The relative celerity with which individuals responded by the production of specific agglutinins was a somewhat variable but interesting demonstration. The persistence and gradual reduction of the quantity of agglutinin units in this first group of men could not, unfortunately, be observed over any extended time, since the men whose serums were being tested were all lieutenants in the Medical Reserve Corps, temporarily stationed at the Army Medical School and leaving for distant stations on the completion of their vaccination.

I therefore began a study of fifteen of my classmates, student candidates for the Medical Corps of the Army. This series of cases I could keep under

observation a greater length of time, though the existing emergency has made it shorter than it might have been; however, the time has been long enough to yield some interesting data.

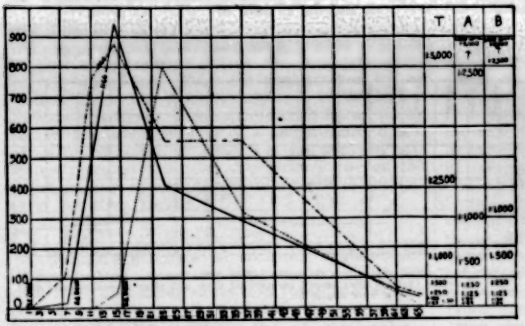

Chart 6.—No previous vaccination. Army vaccination, September, 1917. First injection, slight headache, slight local reaction; highest temperature, 99. Second injection, moderately severe local and general reactions; highest temperature, 100.4; duration of fever, two days. Third injection, no general, very slight local reaction; highest temperature, 99.

The method of titration and the method of preparing new quantities of the standardized agglutinable cultures, as practiced at the Army Medical School, have been described previously.[1]

FACTS BROUGHT OUT

Though, as mentioned before, the charts speak for themselves, it might be worth while to draw attention to certain points: Previous typhoid vaccination (and the same is true of paratyphoid A and B as well) has the effect of repressing the formation of a high unit content, though some change is noticed. It does not altogether inhibit the production of specific agglutinins, but serves rather to retard it, and restrain it after production begins. In some cases it seems to have very little effect on the production of agglutinins, and they rise in a curve similar to previously uninoculated cases. In no case did previous inoculation seem to augment agglutinin production. In one case (Chart 10) in which the patient gave a history of having had typhoid fever at the age 4, and of having been inoculated one and two years previously, there was a definite reduction of the agglutinin units, never returning to the original number, and approximating it only after twenty-five days.

This feature is of importance and is to be kept in mind in the diagnosis of typhoid or paratyphoid A or B fever, by the Widal reaction.

Hamilton[2] is of the opinion that the Widal reaction is of no value in the diagnosis of typhoid fever, in previously inoculated individuals. Dreyer, Walker and Gibson[3] and Davison[4] present arguments in support of their opinion that macroscopic Widals, with a standardized agglutinable culture, done at intervals, to demonstrate fluctuations upward or downward, in agglutinin content, have a definite diagnostic value. However, the fluctuations that appear in some of these charts, after the titer has neared the base line, occur in the cases of quite normal men, with no physical findings to suggest their cause. In a later series of cases, which was not only continued over a greater length of time, but in which the titrations were done much more frequently, these fluctuations without apparent cause are much accentuated. In view of this fluctuation for some months after vaccination, it seems ill advised to draw any diagnostic conclusions from such fluctuations, in a case of fever. While such fluctuations may be pointingly suggestive, they are not at all to replace, diagnostically, an early blood culture or the isolation of the organism from the stool.

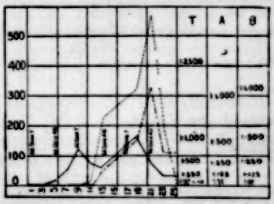

Chart 5.—Army vaccine, July, 1917. No history obtained.

In only one case was a total absence of agglutinin production observed (Chart 8). This case showed a normal production of paratyphoid A agglutinins, a production of typhoid agglutinins consistent with a previous typhoid inoculation (interesting because the previous vaccination took place four years ago), and no agglutinins for paratyphoid B.

In another case, typhoid and paratyphoid A agglutinins responded normally, while paratyphoid B agglutinins failed to make their appearance until the twenty-first day after inoculation, after which they persisted in a normal manner. This chart (Chart 9) is interesting in that it shows a secondary rise of all three types of agglutinins, following shortly after the assumption of the patient's duties in the vaccine room, where he was constantly exposed to infection. During this time he presented an illness with malaise, rise in temperature, etc., sufficiently simulat-

Chart 7.—Typhoid vaccination, 1915. Army vaccine, September, 1917. First injection, moderate general and local reactions; highest temperature, 99.5. Second injection, general reaction very severe; severe chill one hour after injection, lasting a half hour; patient went to bed; one hour after inoculation, temperature had gone to 105 and two hours later to 106, accompanied by delirium and profuse sweating; following day, temperature varied from 102 to 103, and approximated normal on succeeding day; axillary tenderness followed for several days. Third injection, mild local and general reactions, highest temperature, 99.

1. Fennel, E. A.: The Dreyer Method of Agglutination as Used at the Army Medical School, THE JOURNAL A. M. A., March 2, 1918, p. 590.

2. Hamilton, C. D.: The Effect of Typhoid Vaccination on the Widal Reaction, THE JOURNAL A. M. A., Nov. 27, 1915, p. 1873.

3. Dreyer, G.; Walker, E. W. A., and Gibson, A. G.: Lancet, London, 1915, **1**, 324.

4. Davison, W. C.: The Diagnosis of Enteric Fever (Typhoid and Paratyphoid A and B) by Agglutination Tests, THE JOURNAL A. M. A., April 22, 1916, p. 1297.

ing in a clinical way, an ambulatory case of typhoid fever, to make a blood culture advisable. Blood cultures revealed no growth, and complete recovery followed in a week or ten days. Reliance on the symptoms and the fluctuations in the agglutinin content, in this case, might have led to a diagnostic error.

To indicate that the repression not only of typhoid, but also of paratyphoid A and paratyphoid B agglutinins must be considered in previously inoculated patients when the triple vaccine has been used, Chart 1 presents the repression of typhoid agglutinins, Chart 2 that of paratyphoid A, and Chart 3 that of paratyphoid B. The probability of cross-agglutination in each of these cases must be considered, as well as the history of previous vaccinations.

While cross-agglutination may take place, the units within which this may take place have been quite definitely determined, and need not be considered in those charts in which all three agglutinins rise to a fair height. In a typhoid monovalent serum of 800 agglutinin unit content, the cross-agglutinin unit content for paratyphoid A is 65 and that for paratyphoid B is 80. In a paratyphoid A monovalent serum of 3,000 unit content, the cross-agglutinin content for paratyphoid B is 160 and that for typhoid is 65. In a paratyphoid B monovalent serum of 3,750 unit content, the cross-agglutinin content for paratyphoid A is 130, and that for typhoid is 65.

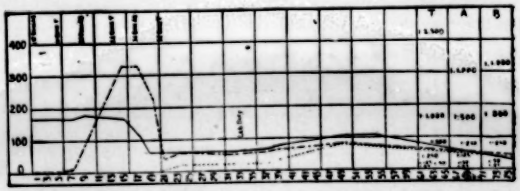

Chart 9.—Typhoid vaccination six weeks before Army vaccine. Army vaccine, July, 1917. Moderate reaction after second paratyphoid dose, and after second typhoid dose. Otherwise the reactions were negligible.

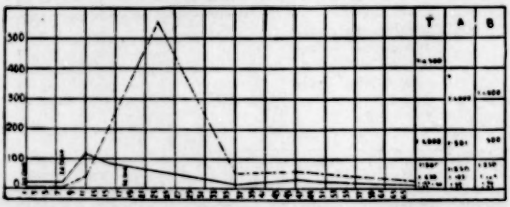

Chart 8.—Typhoid vaccine, November, 1913. Army vaccine, September, 1917. First injection, no general, slight local reaction. Second injection, malaise and chills, considerable local reaction; highest temperature, 100. Third injection, no general, very slight local reaction.

The very generous development of all three types of agglutinins in the case of Chart 6 might be explained by the patient's rather wonderful physique and his previous freedom from infection or vaccine.

There seems to be no logical relationship between the systemic or local reaction and the number of units of agglutinins produced. These reactions are almost always of a negligible character, and in spite of the fact that medical men are notoriously introspective, only one of the subjects of this series complained with reason (Chart 7). In this case the very severe reaction was probably due to the puncture of a small vein in the administration of the vaccine. It is a rather constant observation, however, that one of the three inoculations is followed by some reaction while the other two give rise only to a slight local reaction. In by far the greater proportion of cases it is the second dose that gives rise to this systemic reaction. This lack of correlation between the reactions and the agglutinins produced is in substantiation of the work of Craig[5], who showed not only that the general and local reactions after the triple vaccine did not exceed those after the unmixed or paratyphoid, but also that there was no direct relationship between these reactions and the amount of antibodies produced.

Craig's observations, not in agreement with the results of some English observers, that the agglutinin titer for paratyphoid B was lower than those for the two other organisms, are borne out in the majority of the cases of this series, if they read in dilutions direct. However, if the readings are made in agglutinin units, the differences are so slight that a much larger number of cases must be considered before any conclusions may be reached. Besides, the repression caused by previous vaccination must always be considered, and it is possible that prolonged previous exposure to minimal doses of organisms, with a production of a low-grade "natural" immunity might explain some of the wide variations in individuals, or the variations of the three agglutinins in the same, previously unvaccinated individual.

The pro-agglutinoid zone ran a rather consistent course. It was, naturally, not noticed, when agglutination took place in dilutions only so low as 1:25 or 1:50. It made its appearance, however, when agglutination took place in dilutions of 1:125 or 1:250. When this failure to agglutinate in lower dilutions, with very positive agglutination in the higher dilutions, once made its appearance, it ran a course consistently dependent on the dilutions, and not on any discoverable extraneous factor. A pro-agglutinoid zone ranging from dilutions of 1:25 to as high as 1:1,000 was frequently noticed during the time the agglutinins

Chart 10.—Typhoid fever in 1896. Typhoid vaccine, 1915. Mixed commercial vaccine, 1916. First injection, headache, slight local reaction, highest temperature, 99.6. Second injection, headache and slight abdominal pain; highest temperature, 99. Third injection, slight headache, slight local reaction; highest temperature, 99.

5. Craig, C. F.: Triple Typhoid Vaccine (Bacillus Typhosus, B. Paratyphosus A. and B. Paratyphosus B), THE JOURNAL A. M. A., Sept. 22, 1917, p. 1000.

were at their height. It is important to keep the pro-agglutinoid zone in mind, lest through an insufficiently high dilution a tube in the pro-agglutinoid zone should be read as a wholly negative result.

While Zinsser, basing his opinion on the work of Bechtold[6] and that of Neisser and Friedman,[7] considers the assumption of pro-agglutinoids unnecessary, their existence would serve to make clearer some of the phenomena noticed. That the pro-agglutinoids not only completely inhibit the agglutination in the lower dilutions but partially inhibit it in the higher dilutions is possible. This supposition is borne out by the fact that when the titer of a serum comes down, the pro-agglutinoid zone precedes it, and with the total disappearance of this zone, a secondary rise on the agglutinin titer appears, which is difficult to account for in any other fashion.

CONCLUSIONS

1. Definite agglutinins for all three organisms are developed after the use of Army vaccine. They are equal after alternating doses and triple vaccine, the methods are equally effective, and the time-saving element in the latter is obvious.

2. Previous vaccination has the effect of repressing agglutinins for the specific organism.

3. Fluctuations in agglutinin content occur after vaccination, in normal cases, and are of little diagnostic value in cases of fever.

4. There is no relation between the systemic and the local reaction, after vaccination, and the units of agglutinins produced.

THE PSYCHONEUROTIC FACTOR IN THE IRRITABLE HEART OF SOLDIERS *

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In 1871, Da Costa published his observations "On the Irritable Heart" as seen among soldiers invalided for this malady during the Civil War. During the present war this condition has again become prominent and names such as "disordered action of the heart" (D. A. H.), "effort syndrome," "debility" and "neuro-circulatory asthenia" are employed to describe the affection. The group includes all cases which present a well defined syndrome in which certain nervous and circulatory symptoms are associated with increased susceptibility to fatigue and in which no definite pathologic condition can be found to which to ascribe the clinical symptoms. The underlying pathogenic process is still unknown; and when we speak of the psychoneurotic factor in the "irritable heart" of soldiers, we do not imply an immediate causal relationship between the two, or that the symptoms of the two originate in the same way, but rather that possibly both groups may result from some common but as yet unknown cause.

It is probable that at present under the term "irritable heart" are included types of cases which are fundamentally quite different. The prominence of the nervous system in many instances is so striking that one naturally considers the relationship to the psychoneuroses, just as the circulatory phenomena among certain cases of war psychoneurosis must have led neurologists to wonder where the dividing line is to be drawn; in truth, there is a borderline where the two dominions overlap. Some even believe the irritable heart represents merely the cardiac difficulties of soldiers suffering from war neuroses. Again, it was evident that a certain number of patients with irritable heart had suffered from symptoms of the condition long before enlisting, some dating the onset to the formative period or even to childhood. The question whether some cases were not congenital or even hereditary in character also occurred, particularly when dealing with soldiers who belonged to the group called constitutionally asthenic. Then there is the serious and, in the American Army, immediate problem of dealing with recruits with such histories who break down in training.

With these matters in mind we decided to analyze the detailed histories of 100 unselected cases to see whether such an analysis would throw any light on these questions or give definite confirmation to certain impressions which had been gained in the course of daily routine observations. Our study was based on the clinical material in the large Military Heart Hospital at Colchester, which admits almost exclusively soldiers invalided from the British Expeditionary Force.

For purposes of comparison the same characteristics selected by Capt. Julian M. Wolfsohn[1] in his paper on "The Predisposing Factors of War Psychoneuroses" were utilized, and also the statistics on 100 wounded soldiers used by him as controls. We have taken the liberty of reprinting two of his tables, but have incorporated our observations in cases of irritable heart in a column between those he has published for the psychoneuroses and those for control soldiers. In both tables (1 and 2) it will be seen that the percentage of the various characteristics named are in general highest in the psychoneurotic group, intermediate in the irritable heart group, and lowest in the control group of cases.

FAMILY HISTORY

It must be made perfectly clear that we were investigating the family history of cases of irritable heart for factors considered causal for psychoneuroses. The patients were invalided for irritable heart only, and the statistics obtained from these are placed in the middle column in both Tables 1 and 2.

A positive family history of one or several of the characteristics selected was obtained in 56 per cent of cases of irritable heart and in 38 per cent. of the controls; but the contrast between the two classes becomes far more striking when certain of the individual items are compared. Thus with reference to nervousness in the family history, there are 45 per cent. among the irritable heart group and only 15 per

6. Bechtold: Ztschr. f. phys. Chem., 1904, p. 48.
7. Neisser and Friedman: München. med. Wchnschr., 1914, **51**, 465.

* From the Military Heart Hospital, Colchester, England.

* This paper is abbreviated for publication in THE JOURNAL by the omission of Table 6, which is a long table of "Character of Service and Cause of Invaliding," arranged in groups, of each individual, with his age, civil occupation, period of total military service and of foreign service. Reprints of the complete paper may be obtained by writing to either of the authors.

1. Wolfsohn, J. M.: The Predisposing Factors of War Psychoneuroses, THE JOURNAL A. M. A., Feb. 2, 1918, p. 303; Lancet, London, 1918, **1**, 177.

cent. among the controls; in regard to insanity and epilepsy there are 23 and 15 per cent. respectively, in the families of cases of irritable heart and none among the controls.

PERSONAL HISTORY

In Table 2, the contrast between cases of irritable heart and the controls is still greater. The total number or percentage of cases with a positive personal

TABLE 1.—PERCENTAGE OF CHARACTERISTICS NAMED IN FAMILY HISTORY OF PATIENTS SUFFERING FROM (1) NEUROSIS, (2) "IRRITABLE HEART" OF SOLDIERS, AND (3) CONTROLS

	Neurosis Per Cent.	Irritable Heart Per Cent.	Controls (Wounded) Per Cent.
Nervousness	64	45	15
Alcoholism (parents and grandparents)	50	15	24
Teetotalers (parents and grandparents)	30	15*	16
Irritability of temper	36	27	12
Insanity	34	23	0
Epilepsy	30	15	0
Tuberculosis (immediate family)	12	13	4
Tuberculosis (relatives)	6	15	4
Stigmata	10	17	0
	—	—	—
Positive history for one or several of foregoing	74	56	38

* Figure incomplete.

history is fifty-one among cases of irritable heart, twelve among the controls, and of those with positive family *and* personal history there are 46 per cent. among the former group and only 6 per cent. among the latter. As to the individual items, the predominance of certain characteristics among cases of irritable heart as contrasted with the controls should be especially noted, namely, presence of stigmata, prevalence of previous nervousness, a history of epilepsy or fits, of previous breakdowns, of moodiness, and of enuresis. It is well known that sufferers from irritable heart are apt to be teetotalers and are sexually not very active; the latter fact may account for the low percentage (18) of married men in this group as compared with 28 per cent among the controls and 42 per cent. among the psychoneurotics.

TABLE 2.—PERCENTAGES OF CHARACTERISTICS NAMED IN THE PERSONAL HISTORY IN CASES OF (1) NEUROSIS, OF (2) "IRRITABLE HEART" OF SOLDIERS AND OF (3) CONTROLS (I. E., WOUNDED)

	Neurosis Per Cent.	Irritable Heart Per Cent.	Controls (Wounded) Per Cent.
Stigmata	34	12	4
Previous nervousness	66	46	12
Fears	50	31	8
Head injury	38	5	12
Epilepsy and "fits"	8*	5	0
Tobacco (excessive)	8	1	4
Alcohol (excessive)	6	0	16
Alcohol (teetotaler)	48	36	20
Married	42	18	28
Moody	55	27	8
Previous breakdown	2	21	0
Enuresis	12	14	4
Frights in childhood	4	19	0
Excessive religion	6	6	0
	—	—	—
Positive personal history	76	51	12
Positive family and personal history	70	46	6

* As stated in the text, the data in the neuroses and the controls are reprinted from Captain Wolfsohn's paper; in his figures, however, only epilepsy was considered, whereas we have also included "fits" which may, or may not, have been true epilepsy.

Of the 100 cases analyzed, sixty-one gave a positive family *or* personal history for psychoneurotic factors. Of these, forty-six gave a positive family *and* personal history, a group which we will call Group 1 to distinguish it from Group 2, which consists of thirty-nine cases with a negative family and personal history (Table 3). A comparison of other facts in these two large groups, 1 and 2, of cases of irritable heart is shown in Tables 4 and 5. As regards previous occupations in civil life, it is noteworthy that patients in Group 1 followed largely sedentary and light occupations, whereas of those in Group 2 some did light but more did heavy work. In Table 5 it is shown that the average duration of foreign service is six months less among Group 1 than in Group 2; but the real difference between the two types is seen in a comparison of the *character* of the military service rendered; only four out of forty-six in Group 1 did full duty, as contrasted with thirty-three out of thirty-nine in Group 2.

TABLE 3.—PERCENTAGES OF CASES OF IRRITABLE HEART OF SOLDIERS SHOWING POSITIVE FACTORS IN THE FAMILY OR PERSONAL HISTORY, PREDISPOSING TO PSYCHONEUROSIS

	Neurologic History: Family	Neurologic History: Personal	Percentage
Group 1	+	+	46
Group 2	—	—	39
Group 1A	+	—	10
Group 1B	—	+	5

CHARACTER OF SERVICE

The character of service of each of the 100 men is also given in abstract in Table 6, and it is very evident that the patients in Group 1 from a military point of view gave such a poor account of themselves as a whole as to make one doubt whether it was worth the time and expense devoted to them. On the other hand, those in Group 2 certainly did at least the military duty of an average soldier, and many of them gave most valuable and prolonged service. In such patients, invalided for irritable heart, as have neuropsychic factors in their family and personal anamnesis, the value of the military service rendered has been found to be negligible (Table 6).

TABLE 4.—OCCUPATION

	Sedentary	Light	Heavy
Personal and family history positive (Group 1)	10	27	9
Personal and family history negative (Group 2)	2	17	20

THE CAUSES OF INVALIDING

The cause of invaliding is given for each of the 100 cases in Table 6, and it is worthy of note that among the cases in Group 1 there is frequently, in fact, in twenty out of forty-six cases, nothing definite; on the other hand, in Group 2 there is more frequently a definite precipitating cause, such as an infection like trench fever or dysentery, prolonged service, gassing or shell explosion.

TABLE 5.—AVERAGE AGE AND DURATION AND CHARACTER OF SERVICE

	Group 1 (46 cases)	Group 2 (39 cases)
Average age	27 years	25 years
Duration of foreign service	13 months	19 months
Number of patients that did full duty	4	33
Number of patients that had no foreign service	9	2

CONSTITUTIONAL PHYSICAL ASTHENIA

The sharp contrast between the two groups goes further than differences in their family and personal histories as regards neuropsychic factors, occupations in civil life, or duration and character of foreign service. A history of constitutional asthenia was obtained in almost 70 per cent. of Group 1 cases and in only 12.8 per cent. of Group 2.

By the rather vague term "constitutional asthenia,"[2] is meant a relative inferiority or an anomaly in the assemblage of inherent characteristics, both functional and morphologic, which go to make up the organism. Among the constitutionally asthenic we include those who have always been short of breath, have been unable to play the most strenuous games or keep up physically with the average of their fellows, have fainted or become dizzy easily, have blushed readily, perspired too profusely, and have suffered from cold extremities. There appear to be two types of such individuals, first, those who are weak and poorly built, or may have a "habitus," and second, those who to all appearances are muscular, strong and robust, and yet for some unknown cause have had symptoms such as dyspnea on exertion from youth up.

One may also include under this term patients who have a habitus, such as the narrow chested or splanchnoptoptic, those who have given evidence of a diathesis such as the hemorrhagic, the exudative, the lymphatic or the spasmophilic, and those having a dyscrasia, or belonging to certain types such as the vagotonic, angiospastic, erethic, feminine, eunuchoid, etc.; or those showing definite evidence of disturbance of the endocrine organs. Attention has been directed for many years to this whole question of constitution by F. Kraus, and it is impossible to enter into the subject here; but it must be emphasized that apart from neuropsychic factors, there is a constitutional tendency in certain individuals which predisposes them to the development of the irritable heart syndrome. Moreover, such a history of constitutional asthenia was present in 70 per cent. of Group 1 cases and in only 12.8 per cent. of Group 2. And it is this condition which is meant when the cause of invaliding in Table 6 is indicated as "nothing definite."

JUVENILE OR DEVELOPMENTAL VASONEUROTICS

From a study of the personal histories, it is believed that many patients with irritable heart of soldiers are the mature individuals who during their developmental period presented vasoneurotic symptoms. Of the forty-six patients in Group 1, thirty-two or 70 per cent. showed symptoms of constitutional physical asthenia before the age of 17. Of these, thirteen had symptoms as long as they could remember. Of the remaining nineteen, the age at which symptoms of constitutional weakness first manifested themselves ranged from 8 to 16, and averaged 11.8 years for those who could recall approximately their age when the symptom or symptoms appeared. (Two other patients date the appearance of their symptoms to their twenty-second and twenty-third year, respectively; but as the symptoms appeared so late, it is not certain they belong to the same group.)

Apparently hitherto no attention has been paid to a very important fact, that a syndrome identical with that of irritable heart occurs not infrequently in children,[5] especially associated with orthostatic albuminuria.[4] These symptoms usually arise in children at the school age, from 8 to 14, and are "chiefly those referable to the cardiovascular system, namely, dyspnea on exertion, palpitation, precordial pain, headache, fainting, hypersusceptibility to cold." To quote Bass and Wessler again:

> In spite of the absence of any demonstrable increase in the size of the heart, all of these children nevertheless had definite symptoms. . . . Twelve of the fifteen had definite signs of abnormal function, five had booming first sound, three had apical systolic murmurs; four had marked accentuation of the second pulmonic sound; four showed apical signs of marked overaction, and four showed increased heart dulness to the left.

In the illustrative case history that follows this description, they note "hands cold and cyanotic, marked dermographia, Chvostek's sign positive." Moreover, orthodiagraphic study of these cases showed that although the hearts do not dilate after exercise, a considerable number of them fail to become smaller under these conditions. In all these particulars, then, these cases formerly called "dilatative weakness,"[3] resemble the irritable heart.[5] In fact, the juvenile cases are identical in symptomatology with the syndrome as seen in soldiers. It seems highly probable to us, therefore, that the adult patients with irritable heart who give a previous history of similar symptoms at the prepuberty age, or as far back as they can recall, have been children who are recognized as suffering from "vasoneurosis," "dilatative weakness," etc. Indeed, we have been able to follow in civil practice one boy with a positive family history, whose symptoms began with cyclic vomiting in infancy and childhood, who had dyspnea, palpitation and occasionally pain on walking up-hill in his teens, and at 18 years of age presented the characteristic clinical picture of neurocirculatory asthenia with overacting heart, very diffuse apex beat, loud systolic murmur, etc.

DIFFERENCE IN SYMPTOMATOLOGY OF THE TWO GROUPS

In comparing the symptoms in the two groups of cases, that is, those with and those without psychoneurotic factors in their family and personal histories, it is noteworthy that in general, soldiers in Group 1 complain almost invariably of chest pain among other symptoms; (indeed, the men are apt to "stick it" until pain develops; then they become alarmed and report sick). Patients of Group 2 rarely complain of chest pain, but suffer more from exhaustion and weakness; they are "done up," to use their own expression. One case may be cited belonging to Group 2 which illustrates that an acute infection may be the cause of the irritable heart, that these symptoms may then disappear and leave simply exhaustion. The patient referred to broke down after prolonged service and trench fever with breathlessness which disappeared after a fortnight, leaving him with weakness, exhaustion and nervousness, but no dyspnea or pain. The post-infectious cases of "irritable heart" are more apt to prevent exhaustion symptoms and only exceptionally pectoral pain.

There is perhaps a certain parallelism between these two groups of "irritable heart," and cases of war neuroses. If we understood Captain Rivers correctly, certain cases of shell shock result in repression neurosis, the *anxiety* neurosis, while those resulting

2. In the British Army "constitutional" means merely "pre-enlistment"; a condition is termed constitutional if it existed before enlistment.

3. Martius: Kong. f. Inn. Med., 1899, **2**, 41.

4. Bass, M. H., and Wessler, H.: Heart Size and Heart Function in Children Showing Orthostatic Albuminuria: An Orthodiagraphic Study, Arch. Int. Med., April, 1913, pp. 403-417. This paper gives the references to the literature on the subject.

5. We examined thirty unselected cases of "irritable heart" and found one with orthostatic albuminuria. Orthostatic albuminuria usually disappears at puberty, but may remain in adult life. We have observed Chvostek's sign repeatedly among soldiers suffering from irritable heart.

from exhaustion or infection manifest themselves as *exhaustion* neurosis (neurasthenia). Similarly in a general way, among patients with irritable heart there are those belonging to the constitutional group, who suffer from chest pain, etc., and those who belong to the exhaustion or the postinfectious group who have fatigue symptoms, but rarely much pain.

SUMMARY

As stated at the outset, we do not know the fundamental pathology of the syndrome known as the "irritable heart" of soldiers. It is almost certainly not a clinical entity. In general, there are two large groups of cases whether investigated from the standpoint of neuropsychic factors in the family and previous history, or from that of preenlistment and constitutional symptoms. In half the cases one observes, there is a positive family and previous history of factors considered predisposing to psychoneuroses, and in almost 70 per cent. of these there is a history of constitutional asthenia. It is this particular group (1) that inclines one to the view that an irritable weakness of the whole nervous system, including the innervation of the entire circulatory system, may account for the varying neuropsychosomatic symptoms.

There are all the remaining cases to be considered, however. It may well be that the resistance of individuals in Group 2 was perfectly normal, but that they were subjected to a strain or infection, sufficiently prolonged or intense to exhaust their reserve. The normal individuals, when they do break down, seem to present symptoms of exhaustion; the relatively inferior individuals show both excitation and exhaustion.

The burden to the Army of cases of irritable heart may be lightened by the early recognition of cases belonging to Group 1. As yet we do not know how many individuals having similar family and previous histories for neuropsychic factors (with or without preenlistment symptoms) give valuable military service and are not invalided. Until such statistics are available, it is practicable to recommend that only special boards be guided in the disposition of recruits by such anamnestic data.

In a type case of Group 1, the patient has a positive family and personal history for neuropsychic factors: in civil life followed a sedentary or light employment, tolerated about one year of foreign service, but that usually at light duty. He is apt to break down finally, not from a definite precipitating cause, but because he is fundamentally relatively inferior. He almost invariably complains of chest pain among his other symptoms.

In a type case of Group 2, the patient has a negative family and personal history, in civil life followed some occupation involving hard labor, stood about one and one-half years of foreign service, and that usually at full duty. He is more apt to give a history of a definite precipitating cause, such as prolonged service or acute infection, which invalided him. He complains more of exhaustion and weakness, and only rarely of chest pain.

Individuals of Group 1 who were invalided gave a history indicating that the value of their military service was almost negligible, while before breaking down many of those in Group 2 gave unquestionably valuable service.

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PROPHYLACTIC TREATMENT IN THE PREVENTION OF VENEREAL DISEASE

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During the past couple of decades, the trend of medicine has been steadily and progressively toward preventive rather than curative medicine. In no domain of medical science has this principle been more strongly exemplified than in the sanitary measures that are being utilized to protect the health of the soldier in the United States Army. For a long time the great bane of all armies has been the venereal problem, and the same applies to navies. The United States government, realizing the great necessity of curbing this evil, has adopted certain regulations which have been of the greatest service. These regulations are four in number:

1. General orders concerning venereal diseases, requiring men who expose themselves to the danger of contracting venereal diseases to report at once for prophylactic treatment on return to the camp; with trial by court martial for neglect of duty, for any soldier who fails to comply with such instructions, and loss of pay while absent on account of sickness.
2. Thorough physical inspection of all the enlisted men of each organization, twice in each month, by a medical officer accompanied by the company or detachment commander.
3. Abolition of alcohol from the Army.
4. Establishment of "vice zones" around military camps, forts and cantonments.

APPLICATION OF THE REGULATIONS

The object of this article is to show what can be obtained by the judicious application of the foregoing regulations in the individual regiment or smaller organization, which is the working unit in the Army. I know of no better way to illustrate the efficiency of these procedures than to cite my experiences as regimental surgeon in the Three Hundred and Fiftieth Field Artillery, Ninety-Second Division, National Army, located at Camp Dix, N. J.

The Ninety-Second Division is composed entirely of colored troops, and our regiment is made up of drafted men from the state of New Jersey. From the formation of this regiment, Nov. 8, 1917, to April 19, 1918, only nineteen cases of venereal disease have developed which did not exist prior to draft. Of these, twelve men did not apply for or receive prophylactic treatment. These men were all tried by Summary Court under General Order 45, and appropriately punished under military regulations. During this time 1,561 prophylactic treatments were given, and only seven men thus treated contracted venereal disease. Of the seven who contracted venereal disease notwithstanding prophylactic treatment, all were cases of over twenty-four hours' duration. Five were gonorrhea, one chancroid, and one syphilis. This shows the efficiency of prophylactic treatment; it also demonstrates the value of early treatment whenever possible, as four out of the seven cases developed during the Christmas and New Year's vacations, when the men had four and one-half days' leave, and all four of these admitted relations on the first day of leave,

making an interval of four days before receiving prophylactic treatment. This leaves only three cases that developed after prophylactic treatment when the interval was between twenty-four and forty-eight hours, and not a single case in which prophylactic treatment had been administered within twenty-four hours after exposure. Remembering that 1,561 prophylactic treatments had been given during this time, we can only wonder how many cases would have resulted without this treatment. The number of prophylactic treatments, it may be explained, would have been far greater had not the camp been under quarantine over five weeks of this period, and during this time no leave was granted. This represents an average of over 100 treatments each week-end, since receiving the great bulk of our troops. We have had as high as 150 treatments between Sunday night at 10 p. m. and reveille the following morning.

THE TYPE OF SOLDIER

These men were all raw recruits drafted into the National Army, and the majority had held such positions as butlers, chauffeurs, farm helpers, cooks, waiters, bell-boys, and a large number as laborers in mills, shops and factories.

About 20 per cent. had only a limited knowledge of reading and writing; a few, about 3 per cent., were completely illiterate. About 5 per cent. had completed a grammar school or higher education, leaving about 72 per cent., who had an equivalent of from two to six grades in a grammar school course. It was surprising to note how rapidly these men accepted and carried out disciplinary measures. They are in every way equal to their white brethren. The venereal report given above and the weekly health report will certainly confirm this fact.

Quoting from the weekly telegraphic report for the past four weeks, we note that:

Three weeks ago, the percentage of sick was 0.8.
Two weeks ago, the percentage of sick was 0.9.
One week ago, the percentage of sick was 0.6.
April 19, 1918, the percentage of sick was 0.53.

Quoting from the report of the division sanitary inspector to the division surgeon, under date of April 17, 1918, we note that:

Three Hundred and Fiftieth Field Artillery, the noneffective rate per thousand was 15.7.
Camp Dix, N. J., the noneffective rate per thousand was 43.0.

Thus it will be seen that our sick rate is one-third the average camp rate; and in addition this is the lowest rate of any regiment in the camp.

This also shows that the colored soldier obeys orders, as no such results could be obtained if sanitary regulations were not obeyed. The comparison with other groups is just, since the various organizations live and train under the same conditions.

Sixteen per cent. of the enlisted men had venereal disease on admission, divided thus: 83 per cent., gonorrhea; 7 per cent., chancroid; 10 per cent., syphilis.

METHOD OF OBTAINING RESULTS

The official reports have quite regularly employed the designation, *Very Satisfactory*. Now, how have these results been obtained?

1. By harmonious cooperation and concerted action between the line and the medical officers on all important subjects pertaining to sanitation and the general health of the men. This can be accomplished only when proper *esprit* exists between officers working together for a common cause.

2. By frequent lectures to the men, in which the medical or line officer explains in plain, understandable English the reason for every order or request bearing on this subject, at the time it is made; and at the same time convincing the men that that particular order or request is solely for their own benefit or protection, the disobeying of which would mean physical suffering as well as military punishment.

3. By encouraging the men in all forms of athletics, music and entertainments of various kinds, and in the reading of useful books on military or other interesting subjects.

4. By securing the implicit confidence of the men in their officers as their leaders to such a degree that when an order is given, it is instantly and willingly obeyed at all times and under all conditions.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ANTIPNEUMOCOCCUS SERUM.—See THE JOURNAL, June 1, 1918, p. 1599.

Cutter Laboratory, Berkeley, Calif.

Anti-Pneumococcic Serum, Type I.—Marketed in vials containing 50 Cc.

H. K. Mulford Co., Philadelphia.

Antipneumococcic Serum, Type I.—Marketed in double ended vials containing 50 Cc.

Antipneumococcic Serum, Polyvalent.—Prepared by immunizing horses with dead and living pneumococci of the three fixed types (Types I, II, III).

Marketed in double ended vials containing 50 Cc. each, with sterile needle and tubing for intravenous injection.

Dried Milk in Infant Feeding.—In Great Britain the local government board has issued a report on dried milk in infant feeding as the result of an inquiry carried out by Dr. F. J. H. Coutts, medical inspector of the board, and by Dr. George Winfield, who was commissioned to investigate the nutritive value of dried milk in infant feeding and its bearing on certain disturbances of nutrition. Two methods of preparing dried milk are the process of passing the milk over heated cylinders and scraping off the film thus formed, and the process of spraying a previously concentrated milk into a hot air chamber where the dried milk falls in the form of a cream colored powder. If kept dry, this powder will remain fresh for weeks or months, and when mixed with water in the proportion of 1 dram to 1 ounce, it corresponds in composition to ordinary milk. Its disadvantages are that it has a somewhat boiled taste, the fat rises quickly to the surface and there is generally some undissolved residue. It has proved, however, to be a good substitute for cow's milk, being much better than the proprietary foods, which contain much starch. The dried milk is said to contain far fewer germs than ordinary town milk and is less likely to transmit infectious diseases. Germs do not multiply in dried milk. It should be prepared only as needed for feeding, since it does not keep well.

RECONSTRUCTION AND REHABILITATION OF DISABLED SOLDIERS

REPORT OF THE FIRST MEETING OF THE SECTION ON MISCELLANEOUS TOPICS HELD IN THE AUDITORIUM THEATER, THURSDAY, JUNE 13*

The meeting was called to order by the chairman, Col. Frank Billings, Chicago, at about 9 o'clock.

The chairman said: You are here this morning because you are interested in our soldiers, the flower of American manhood, who have gone overseas to bear their breasts for you and me against the monsters on the other side; and you feel, as the whole country feels, that we must do something for those boys who are giving their all to the country should they become disabled in this war and do something for the—we call it the physical reconstruction of the men who are disabled; but that is not a very sympathetic word. What we mean is, that we want to make them well again, we want to cure them if we can, and we want to restore them to civil life that they may take their places in economic life again as capable of earning a living wage or salary as they were before, and to also enjoy life as we want them to enjoy it, because they certainly have earned it.

We have a man at the head of the Medical Department of the Army whom you all know. You know him because of his eminence in medicine, and particularly in sanitation. It is not necessary for me to repeat to you what he has done, because the world knows it. But you of the world at large do not know him as some of the rest of us do, because big as he is mentally, much as he has done for the world in sanitation, his heart is just as big as his scientific attainments; and he has conceived this idea of the restoration of our boys. When I tell you of the policy that he has announced, how he struggled to have that approved by the Secretary of War, and finally succeeded, you will understand that that policy is that no soldiers disabled in the line of duty shall be discharged from the Army until cured, or as nearly cured as their disabilities permit. We are fortunate in having the Surgeon-General with us to tell you at the beginning his opinion of physical reconstruction—General Gorgas.

Opening Address by Surgeon-General William C. Gorgas

SURGEON-GENERAL GORGAS said: The question of reconstruction of the phase that you hear outlined here today is entirely new to our Army; it is a new phase of military life particularly in this war. Originally in all armies the whole question was that of defeating the enemy; everything that tended in that direction was fostered, and those things that had no direct bearing on that were left uncared for. Three hundred years ago, for instance, the wounded man was of no particular use with regard to the defeat of the enemy. He was a drag on the Army, and no attention was given to him. Gradually there has been evolved more humanitarian motives, and the Army authorities have been able to care for the wounded not with the idea so much of increasing their military efficiency but with the humanitarian idea of looking after the wounded man.

I have no doubt that if it were necessary for the defeat of the enemy our soldiers and people would still be willing to do what our ancestors of two or three hundred years ago had to do, that is, to sacrifice the wounded. That has been the case both in the European armies and in the more savage armies, like the Zulu army, which were as efficient military machines as any we have ever known.

The great function of the Medical Department so far as the wounded is concerned is in getting them back to the Army. This department will have in the reconstruction nothing to do with the men that are to be discharged. By examining the statistics of the Canadian army we get a pretty good idea of what we are going to have to do. They have sent over some 350,000 men; they have been at war now about four years. Of the men sent across they brought back about 10 per cent. for this reconstruction work. We calculate that our proportion will be about the same.

This reconstruction work is a greater departure from the military objective of the Army than has occurred in the past with regard to medical activities. We are not taking care of these men for the actual efficiency of the Army in the field; we are doing it from a humanitarian principle of making the men more useful, more happy, and achieving a better result both for the men themselves and for the community in making them useful and happy members of that community when they have returned to civil life. Heretofore most of the activities of the Medical Department of the Army have tended toward the direct efficiency of the Army.

Chairman's Address—The National Program for the Reconstruction and Rehabilitation of Disabled Soldiers

I shall attempt to tell you as briefly as possible of the national program for the physical reconstruction of our disabled soldiers. The national program would not be complete if it did not consider the soldier from the time he receives his disability in the field or through illness in hospital, until he is placed back in civil life. Recently Congress has enacted a law which places the disabled soldier after his discharge from the Army within the authority and jurisdiction of the federal Board for Vocational Education. The federal Board for Vocational Education has representatives on it of three cabinets. It is composed of men qualified to carry on their part of the work. Congress has given them power and jurisdiction over the man and money to do their work. They are enabled to cooperate with those federal departments which may best help them. They have the power to go out in the country and to secure the employment of men and women who are best qualified, unrestricted as to salary, in their work; therefore, that part of the work of the care and reeducation of the man after he shall have left the hands of the Surgeon-General until he is placed back in his employment in civil life is complete. I have no doubt that the qualification of that board will make that part of the work efficient. That is the smaller problem of the whole program. To the Surgeon-General is left the harder task, because he has jurisdiction over the man when injured or ill and has the care of him while he remains in the Army until he shall have been cured. He has the jurisdiction over him, the responsibility overseas and in our cantonments or training camps everywhere, in our hospitals generally after he reaches them until he is discharged; and his program, while understood, has not yet been granted all of the machinery to carry it out; but we do not doubt that with the morale back of us in this country represented by you and by the forces that he can command of the best in medicine and surgery in this country, he will be able to do his part quite as efficiently as the federal Board for Vocational Education.

Let me tell you a word of what the physical reconstruction under the Surgeon-General must mean. First of all, it means organization overseas and in our camps, that the men who have been disabled through illness or injury shall receive early and prompt attention looking toward their physical reconstruction; that the man who has lost a member, or his eyesight, or his hearing, or who is tuberculous, or whose heart has given out, should not be allowed to remain neglected and unattended to until he feels discouraged because of his disabilities. He must be dealt with promptly. He must be brought back to this country if abroad and he must receive early attention in order that his disability may be efficiently treated.

That part of the program has been taken up and is already organized, although not as completely as it will be. The man is treated in the general military hospitals; the soldier is under military care. The Surgeon-General has no power to treat him excepting in military hospitals. He is cared for by military forces, and not by civiliians. The Surgeon-General may bring into the service civilians, and he will welcome civilian help; but those who deal directly with disabled soldiers are officers in the military service. The hospitals are general hospitals. The general hospital in the Army is much like our general hospital in civil life. It is a compound special hospital where all departments of medicine and surgery are recognized. So far the hospitals in this country utilized have been existing general hospitals. You hear of "reconstruction hospitals." Military hospitals general in character may carry on reconstruction.

The general hospitals so far used are not new; most of them have been in existence a long time. A few hotels were

* Report of special meetings held as a part of the scientific assembly at the Sixty-Ninth Annual Session of the American Medical Association.

taken over at the beginning of the war, because of the need of buildings, and are rented institutions. There is one at Lakewood and one at Cape May. There is one new hospital at Colonia, near Trenton, N. J., which will function chiefly as a reconstruction hospital. As the work goes on and the number of soldiers to be reconstructed increases, other hospitals will be built which will probably function as reconstruction hospitals. These hospitals will be so located as to bring the soldier nearest to his home. The question is asked frequently, Will these be state institutions? That cannot be answered. If we could have ideal conditions, each state would have a general hospital that would function in the physical reconstruction of soldiers; but it is too early to speak of that. Possibly the states could cooperate with the government to secure hospitals that could be used for physical reconstruction during the war, and if the states would cooperate in helping the government to finance them, these could be made permanent structures. But in all probability general hospitals that will be used for physical reconstruction will be constructed hereafter and will be located in the military districts of the country, of which there are sixteen.

Hospitals for physical reconstruction will differ in some degree from the hospitals that are used in civil life or for general purposes, in that not only will they provide the necessary personnel, medical and surgical, with the necessary operating rooms, laboratories and all that goes to the makeup of the modern hospital, but also they will have physiotherapeutic departments. By physiotherapeutic I mean measures physical in character used in the treatment of the sick, such as hydrotherapy, electrotherapy, active exercise in the form of drills, Swedish movements, outdoor games and massage or passive exercise. These will be employed and standardized to apply to disabled soldiers, no matter under what department of medicine or surgery they may fall. In addition to these physical agencies in modern medicine, we recognize another curative measure in the form of work—curative employment, if you please. This has been utilized in the civil hospitals to a degree dependent on the character of the community in which the hospital was situated, and has usually been called ward work. It has consisted frequently of work not so purposeful in its character, but rather as diversional in character, in the form of knitting, in the form of basket weaving, etc. But work which the Surgeon-General utilizes as curative in character in the general hospital for these soldiers is more purposeful than knitting, basket weaving and the like. In other words, it is of the kind and character of curative work that will look toward the training of the soldier for employment after his discharge from the Army. Or, in other words, it will be prevocational or even vocational in character. The discharged soldier will fall within the jurisdiction of the federal Advisory Board for Vocational Education, whose work is well cut out and is not entirely separate from that of the War Department; for this board, under the law, may act in an advisory capacity with the Surgeons-General of the Army and of the Navy in this work. In the same way the War Department and the Navy Department may act in an advisory capacity with the federal board after the soldier's discharge. In the event that he becomes ill after his discharge he may probably be brought back into the Army for further treatment. In choosing the curative work for the soldier, the advisory board can be of great use to the War Department in selecting the character of prevocational curative work which will be assigned to the soldier in the ward and in the workshop. To do this work under the Surgeon-General there is no difficulty in securing the personnel, medical and surgical, that he has at his command. He has choice of the best qualified medical men and women of the country to do the work, not only in camp and field, but also in the physical reconstruction of these soldiers. We know that they will do their work well. There is a misconception on the part of some physicians about what their duty will be with respect to physical reconstruction. I have had many interviews and have received many applications from them saying, "I want to come in and do physical reconstruction because I am interested in it, and have worked at it some in civil life." The medical man and the surgeon will function exactly in the physical reconstruction of the soldier as he does in the treatment of the man that does not need physical reconstruction. In some respects he will have to acquire some new lines of thought looking toward the restoration of function, but in which he has the cooperative influence of others, namely, the physiotherapeutists and the educational officers. Dr. Tate MacKenzie, a Canadian, has been invited by the Surgeon-General to take charge of the department of physiotherapy to standardize the work and to secure the proper personnel in physiotherapy that will enable us to do that work well.

The Surgeon-General has secured as the head of the Educational Department, for Physical Reconstruction Mr. James E. Russell, dean of the Teachers College of Columbia University, New York, a man well known as an educator. He will organize a personnel of general and technical educators to work in the hospitals to advise with the doctors, the representatives of the federal Board for Vocational Education, and with the man himself as to the character of his prevocational or curative work.

We have already done a lot of work in spite of the fact that the government has not until now supported this program by the necessary legislation. The Surgeon-General has started the work in eleven hospitals, and in seven of them has the complete organization that I have named. The men from overseas, the men from our camps, are under treatment for physical reconstruction. Some of them have already been discharged, placed back in civil life and employed in new and gainful occupations for which they were trained while patients in the Army hospitals.

[Lantern slides illustrative of the work were presented and described by Colonel Billings.]

Reconstruction and Rehabilitation Problems as Solved in Foreign Countries

LIEUT.-COL. CASEY A. WOOD, M. C., N. A., said:

During the first year of the great conflict practically all the warring nations began to do something for their disabled men in the way of rehabilitation. At first, these efforts were confined to combatants who had lost an arm or a leg, to those whose disablement was most evident; but gradually the tuberculous, the blind, the rheumatic, the nervous cases, and others who were unable for various reasons to return to the fighting line also were included. At present we find successful schemes, especially in Belgium, France, Great Britain, and Italy, as well as in the Teutonic countries, for the care of all these types of military incapacity through disablement. It is, however, to Canada that we must look for those experiences that are most likely to help us when we are confronted with problems of detail respecting the physical and vocational restoration of the disabled soldier and sailor. For example, the Canadian authorities were the first of all the belligerents to consider the responsibility to the disabled soldier a national one. They were the first to announce that it is the duty of the state to reeducate at the expense of the state those who had been crippled in their country's service.

From the standpoint of the experiences of all the belligerent countries, as Colonel Billings has pointed out, it was early recognized, although for a long time little was done to relieve the situation, that almost from the hour of a serious injury, especially one involving the probable loss of a member or an organ essential to the soldier's happiness and civil vocation, the crippled one began to regard himself as a hopeless invalid. Continued brooding over this belief at length induced a state of mind fatal to rehabilitation. It was no uncommon thing for the soldier to pass through even half a dozen hospitals before he reached what may be termed a reconstruction center—made it almost impossible of eradication. Such a mental attitude, born of the feeling that everybody avoids and will avoid a cripple, was eventually combated in most foreign countries—we have not yet thought of doing it in our own—by what is known as a "cheer-up" program. Not only were the medical officials and nurses attached to base and other hospitals instructed to encourage the disabled soldier on all proper occasions by telling him the good news of the rehabilitation program, but judicious, sane members of officially appointed "care committees," and other social service activities were appointed to visit the bedridden patient, as soon as that could properly be done, and kindly but firmly—a good deal of emphasis in some countries is placed on the "firmly"—preach the gospel of civil reestablishment. Now in most hospitals abroad the good work done by "cheer-up" officials is supplemented by motion pictures, by books on the subject of reconstruction, and even by short talks in hospitals telling what the disabled man may accomplish by the exercise of a little patience and perseverance. As soon as the disabled can profit by them, appeals are made to his patriotism, to his self-interest, to his domestic relations as a means of preparation for his subsequent return to the duties and pleasures of citizenship. From this time on preaching the doctrine "there are no more cripples" has been found by

all foreign countries engaged in this work of salvation to be helpful—indeed, essential—to the successful establishment of the disabled in their former civil life surroundings.

It is the consensus of reconstruction opinion abroad, also, that the ideal rehabilitation program demands the continuous, and as far as possible, uninterrupted care and education of the disabled soldier. From the first days of his disablement until his placement once more in private life as a contented, wage-earning citizen, education and reeducation should go on. The task is much easier for doctors, for nurses, for vocational trainers, for placement agencies and the so-called advisory and follow-up services—not to mention the effect on the man himself—when he is surrounded by what may be termed a reconstruction atmosphere. Hence it follows that furloughs and leaves of absence should be as short as possible, and interruptions in his studies as limited as may be. Moreover, the training of these returned heroes is an intensive one. Most of the courses must possibly be limited to six months.

If the attempt on our part to salvage disabled soldiers and sailors is to be successful, it is necessary that at least three classes in the community should be carefully taught the principles of physical and vocational reconstruction. I do not say the details, I say the principles. The first class comprises medical officers, nurses, vocational teachers, and other officials whose duty brings them into close contact with the sufferer. The second class is composed of the soldiers themselves, and the third class is made up of the great mass of the public. Of the third class it may be said that every foreign nation has discovered that the labor of both physical and vocational reconstruction of the invalided soldier is greatly lessened when the soldier's own people—his parents, his wife, his sister, his brother and associates generally—possess a full knowledge of the purposes and processes of rehabilitation. When this is accomplished the returned soldier soon discovers that, although he is a hero, he is expected, for his own sake, for the sake of his country, for the sake of his family, to reestablish himself as a normal, independent, self-respecting citizen, capable of earning a living and asking favors from no man.

In England, in France, in Canada and in the United States, magazines are published on this subject, and all the usual forms of public instruction are invoked to carry forth this message of hope and salvation to every family in the land. When the time comes, as unhappily it must, that some loved one requires the offices of physical, mental or vocational reconstruction, it will surely be a consolation to all concerned to know just how and when this great work will be done. As one having, under the Surgeon-General, this particular duty of publicity, it is not improper for me to say that there will be distributed to this audience, after each meeting, copies of our new magazine, *Carry On*, together with literature for further distribution that presents briefly the main features of reconstruction.

The Surgeon-General's Plans for the Receiving, Transporting and Distributing of the Disabled From Overseas

BRIG.-GEN. ROBERT E. NOBLE, M. C., N. A., Staff of the Surgeon-General, said:

The question of returning soldiers from overseas to the hospitals in the United States is largely a question of transportation. Being a medical man, I of course have no hesitancy in attacking that problem. The transportation means not only the return but the proper distribution and segregation of these patients after they arrive in the United States. We have devised plans by which the men will be classified according to wounds, sickness or disability, in France. They will be returned to the United States by hospital ships or other transportation provided, and on that ship all papers in connection with those men will be absolutely complete. We shall have traveling medical officers go from this country to Europe and return in order that these papers will be in such shape that when the men arrive in the United States we can handle them very much as they would a boatload of emigrants returning. The men will be tagged according to their injuries, so that we can separate them at once on arrival here, and can then send them by train to the hospital that has been selected for them. The commanding officer at the port of importation will be furnished with a list of the hospitals and the number of beds at each and the character of cases to be sent to each particular hospital. We shall have at these places an officer who is especially trained in matters of transportation, who will arrange a schedule for the trains and special coaches for the various passenger trains. On the hospital trains in this country there will be every comfort and convenience for the care of the sick and disabled. We shall have several types of coaches, we shall have kitchen cars, dining cars, ward cars, and what we call unit cars, for the staff. The unit cars will contain not only the staff but one or two medical officers, two or three nurses, or such number as may be necessary. That can be attached to a train and carried to any part of the country distinct from an entire hospital train. These unit cars will be so that we can send half a dozen or a dozen sick from any one place in the country, or send a trainload. Then these cars will be returned to the port of importation and used again.

The hospitals to which we shall send them will be scattered throughout the United States. We intend to follow a zone hospital system plan, that is, we shall return to the various draft zones the men from each zone. We shall have in this country enough beds to take care of any sick or wounded that may be returned from abroad.

It is not the purpose of the War Department to return to the United States men who will in a short time be again returned to the firing line. I think that that period has arbitrarily been fixed at six months. If, however, we find that a man is in such condition that he cannot be returned to the firing line, he will be brought back to the United States at the earliest possible moment.

The hospitals are of the pavilion type; they will be reconstruction hospitals in one sense of the word and in another sense they will be general hospitals. We shall at first send any class of cases to the hospitals until the reconstruction work of the hospital predominates; then we shall send a constantly diminishing number of general cases to that hospital until it becomes purely and simply a reconstruction hospital.

Acute Surgery as Related to Reconstruction

LIEUT.-COL. M. G. SEELIG, M. C., N. A., said:

In discussing the relationship between acute surgery and reconstruction, we shall consider only that phase of reconstruction which concerns itself with physical rehabilitation. In defining the phrase "acute surgery," one must at the outset guard against the assumption that acute surgery applies only to the exigencies dependent on war traumas. Such reasoning would cripple our Army by false logic. The Army surgeon must regard acute surgery as embracing those surgical diseases of an acute nature, and those traumas occurring in the general, cantonment, post, base and other military hospitals at home, as well as projectile wounds and acute surgical diseases occurring "over there."

The Army surgeon who assumes the responsibility of operative procedure on a patient also necessarily assumes the responsibility of returning that patient to duty status or to civil life, so completely cured that he can have no valid claim as a pensioner. Our responsibility is keenly emphasized, almost beyond the power of any man ever to be unmindful of it, by the recent ruling of the Judge Advocate-General which very properly makes it obligatory on the soldier either to submit to surgical therapy, if a properly constituted medical board decides that such therapy is necessary to enable the soldier to perform his military duties, or to face a court martial.

This type of responsibility carries with it, in addition to an intensified zeal to save life, a markedly heightened effort to restore the sick soldier to his status quo ante. He must be made fit for soldiering again at the earliest possible opportunity, or happily, as we look forward to victory, he must be rendered fit to reenter civil life fully able to carry on and do his bit without claiming any of the government aid that a grateful country stands ready to grant her incapacitated soldiers.

In essence, then, the Army surgeon practicing acute surgery finds himself face to face with the problem of reconstruction in such fashion that his set task is to do away as far as possible with the necessity of later so-called reconstructive work. This task, one which the civil surgeon is trained to meet, is fairly simple as applied to surgery performed on home territory. In the zone of advance, and also, though possibly to a less degree, in the lines of communication, the problem is seriously difficult and gravely pressing. The haste of battle, the exigencies of terrain and transport, the necessary improvizations of warfare, and other factors too numerous to detail, all exercise their influence on the mind and judgment of the surgeon.

And yet if his work is to carry the hall mark of "well done," it must always be done with the thought in mind of restoring the patient at the earliest possible moment with the

least possible requirement of secondary so-called reconstructive surgery.

Naturally it is not necessary to emphasize that in acute war surgery, just as in acute civil surgery, our first and foremost duty is the conservation of life; nor should it be necessary to emphasize the fact that even the press of battle does not mitigate by jot or tittle the baneful effects of unnecessary operation.

It seems beyond question or doubt that late epilepsy and apoplexy, the aphasias, psychoses and other mental disturbances, bear a definite relationship to the type of front line surgery performed for cranial injuries; the early surgery done for the relief of spinal injuries is of itself one factor in the course of later paralyses, spasticities, bed sores and disturbed bladder and rectal functions. On the quality of judgment displayed in the first line to base hospital treatment of nerve wounds depends in no small measure the amount of later surgical effort necessary to correct overstretched muscles, contractures, ankyloses, and loss or disturbance of sensation and motion. Wounds of the lung may result in comparatively trivial bronchitides and chronic pleurisy or in permanent disabling lung collapse and distressing fistulas, dependent on the type of early surgical treatment. Acute surgery is related to reconstructive surgery. The relationship is maintained solely through efforts directed toward minimizing the quantity of reconstructive surgical effort necessary.

Reconstruction in her turn owes certain duties to surgery. Reconstructive surgery resolves itself finally into the fundamental idea of complete surgery directed toward the restoration of complete function. The antithesis to complete surgery is interrupted surgery. Let us recognize at the very outset the two horns of the dilemma from which later we may be prepared to see both surgery and reconstruction suspended; surgery transfixed by the idea of incompleteness and reconstruction pierced by the fatal idea of beginning only where surgery leaves off. For myself I know but one type of my own specialty of general surgery, I know but one type of orthopedic surgery, or of neurologic, otologic or ophthalmologic surgery. They are all reconstructive.

DISCUSSION

SIR ARBUTHNOT LANE, London, England, said:

When this war commenced we were fortunate enough to be able to call to our help perhaps the greatest medical organizer that we ever had—Lieut.-Gen. Sir Alfred Keogh. He had already dealt with our medical problems and had solved them in a most remarkable degree. He had been almost all over the world. Criticism could not feeze him, he was met by an outcry because they said he called for too many men, they said he was employing men unnecessarily, but he was obliged to do so. There was at that time a great threatened uprising in India; the public did not know about it, it was kept secret, nobody knew of it at the time. Our medical men rushed in to the help of the country, they gave up everything without a thought of their future. The only qualification that Sir Alfred Keogh insisted on in those men was youth. It was no use to send men past middle age. As time went on, he realized there were two main factors that we had to consider in dealing with men. One was efficiency and the other personnel. In other words, the application of those two principles, specialized function and fixed tenure with the minimum personnel. Finally, under the lead of Sir Alfred Keogh, things began to take shape and we made two great subdivisions, one purely medical and the other surgical. In that way we were able to specialize and establish some fixity of tenure and accomplish the most with the minimum of personnel. We began by collecting these poor fellows who came back from the front with their faces burned and defaced by shot and shell or by flaming fire thrown on them, poor fellows hideously disfigured. The difficulties that we experienced in handling those men in the hospitals arose from the fact that they were unlike ordinarily wounded men. The wounded man of former times who had lost an arm or a leg was received by his family with sympathy and affection and his children hung around him; but these men were so deformed and disfigured that they were disagreeable to contemplate. A man that comes to you with no mouth, no jaw, no eyes, and a cavity where his nose ought to be, is regarded by his wife and children with ill concealed aversion and horror. His loved ones cannot identify him as the object of their affection and regard; they can see no trace of his original features. It was such patients that we had to deal with, and we had to deal with them in enormous numbers. We found men who were willing to devote themselves to this particular labor of love, and the work called for the very best of their skill and attention. They gradually improved those patients in a most remarkable way. But we found that it was a difficult thing to do this in a large hospital, they were a source of distress not only to themselves but to the people about them; so with the assistance of the British Red Cross, which has done invaluable work in this way, we got a large and beautiful domain in Kent, in the very heart of the country, and there we cared for the men where they were secluded from the public gaze. They are only 12½ miles from the great center, London, and are under the care of the greatest plastic and dental surgeons that we possess. Very soon we had there in that particular hospital British, Australians, New Zealanders, Canadians, both officers and men, all working together in the most friendly manner, competing and vying with each other to produce the best possible results for those poor unfortunate creatures.

Surgeon-General Bradley in France has been good enough to send us twelve American surgeons. I need not tell you how delighted our men were to receive them; and they were as greatly delighted to come as our men were to have them come. Two days before I left to come over here they wanted to write and tell you through me how happy and pleased they were to have the advantages of the experience of those men who had been in this work for three or four years and had obtained such magnificent results. Unfortunately the rules would not permit of my carrying that letter, so I give that message to you verbally. As I say, they are all as happy as possible, they are doing splendid work, and they are doing work that will be of enormous advantage to your men. Moreover, they have the advantage of working with men who have been at it now for four years. That work is perfectly new work. We knew nothing about it before this war. It has had to be developed with extraordinary rapidity. These men are taken in hand first by the dental surgeon, who fastens their jaws together and then by the surgeon, who sees to their faces and tries to improve their appearance as much as possible. Probably he takes a piece of bone out of their body, out of the crest of the ilium, for instance, or out of their ribs, and makes new noses for them, using cartilages perhaps to make a framework. In a very little time it is marvelous the things that are done there. There is one enormous advantage that we have got there, and that is the extraordinary interest that our women are taking in the treatment of these patients, as in the treatment of soldiers generally. Perhaps one of the most beautiful sights I have ever seen in the world was to see that old queen mother, who is I suppose the most beloved woman in England, as she went around talking with and consoling the wounded. I am glad to see you smiling with approval, and your smiles are worth a million dollars, and they do not cost a cent! You women of America I think can smile more sweetly than any other women on earth!

We intend to keep before us always that principle of efficiency and economy of personnel as well as specialization of function and fixity of tenure.

DR. DAVID SILVER, Pittsburgh, said:

In a recent lecture Sir Robert Jones said, "The pathetic side of orthopedic surgery is the collection of physical disabilities which should never have been." This is a strong, indeed a startling, statement, yet it implies no criticism of the splendid medical men who are at the front. We all recognize the terrible difficulties under which they are working, and we know that it is and will continue to be impossible to do away entirely with those conditions; but we are impressed with the importance of such an organization that the number of cases which will require subsequent corrective measures shall be reduced to the minimum.

A large part of the orthopedic work to be done will be due to adhesions in and around joints, and to the results of the sequelae of infection. In proportion as the surgeon is able to perform primary or delayed primary suture of wounds, the damage of infection and its danger will be eliminated, and the number of cases of this type will be diminished. This alone furnishes the means of eliminating a very considerable amount of the subsequent reconstructive effort together with necessarily long retention in hospital, not to mention the needless pain and discomfort which the men must suffer.

Among the conditions which the Surgeon-General has assigned to the orthopedic surgeon are malunion and nonunion of fractures. In at least a large number of cases these

imply failure in effective focalization or inefficiency in the continuity of mechanical control. In the early days of the war it was recognized that a great deal of the trouble from malunion and nonunion resulted from frequent inspections of the patient at the different dressing stations and from the frequent changes in the type of treatment that was instituted. It becomes, therefore, of the greatest importance that we organize this treatment effectively and decide on that plan of treatment which will be applicable throughout the entire management of the case. It is fortunate that this has already been begun. As you probably know, among the expeditionary force a committee was organized, and it was decided to limit the number of splints used to seven, so that the men who are now in Europe are using an exactly similar method of treatment. A further step in advance, I believe, has been the appointment of seven orthopedic surgeons to supervise the control of splints and the management of nonoperative treatment whenever the injuries are of a somewhat similar character. It cannot be denied that neglect of proper mechanical control in this class of cases has resulted disastrously. Before any operation for the repair of a nerve injury will be undertaken, it is now recognized that the parts supplied by the injured nerve must have their full range of motion. Where proper mechanical control has been instituted from the first, many maltreatments are thereby avoided; and that is being made necessary in order to overcome fractures which have been needlessly allowed to take place. This again implies a uniform plan for the nonoperative treatment of these cases.

Recognizing the conditions which have just been mentioned, the Surgeon-General has planned to place in each reconstructive unit one man who has been trained in the application of the proper mechanical principles and who can grade the cases in which acute surgery plays the most important part in relation to later reconstructive work, not only in shortening the reconstructive period but also in obtaining a much better result.

In the early period of the war, circular amputation was often rendered necessary on account of the prevalence of infection. This naturally called for a later reamputation, with resulting loss of considerable portions of the bone, and in marked contraction of tissues which necessarily took place. This objectionable feature was later overcome by the introduction of stump extension, preventing retraction and conserving a considerable portion of the bone. It is reasonable to hope that in the future it will be possible to discard that necessarily unsatisfactory method of amputation and return to the more ideal amputation methods of civil practice. It is most important that the surgeon produce those results which will be the most satisfactory from the standpoint of the artificial limb. Great attention must be paid to the requirement that there be on the stump the best opportunity for future artificial appliances to be attached. Furthermore, that there be proper attention paid to the care of the stump to prepare it for the application of a temporary appliance. It is now customary to apply such an appliance within several weeks after the healing of the amputation, instead of waiting after the operation for several months for the stump to attain its final form. This not only shortens the period of incapacity but is of distinct value in the mental rehabilitation of the patient.

The Reconstruction Problem as it Relates to Nervous and Mental Diseases

RICHARD H. HUTCHINGS, Major, M. R. C., U. S. Army, Washington, D. C., said:

One of the surprising developments of the present great war is the importance that mental and nervous diseases have assumed in all the belligerent countries. It was thought that a new disease had made its appearance, and the term "shell shock" was coined. When the patients were returned to home territory and there was opportunity to observe them more carefully, it was soon determined that shell shock is nothing new. It belongs in a well-defined group of diseases which lie between the nervous and mental and partakes of the characters of both, namely, the psychoneuroses. The only way in which shell shock differs from the psychoneuroses encountered in civil life is that the symptoms are to a large extent determined and colored by the sights and sounds of battle instead of by railway accidents, fires, and other scenes of danger common to civil life.

The unprecedented intensity of the present war puts a severe strain on the nervous system of even the most robust. Indeed, it is the nervous system that must bear the brunt of warfare, different from any ever before experienced. Instead of long marches, and campaigns with periods of rest and freedom from danger, we have trench life with constant exposure to danger from the ground and air, broken sleep and the never ending monotony of daily life.

Guided by the experience of our allies, the Surgeon-General determined that in the selection of the American Army, every care should be used to exclude cases of incipient nervous and mental disease and by that means, as far as may be, the disabilities resulting from them.

Well qualified examiners in mental and nervous diseases were stationed at the officers' training camps, the recruit depots and the Army camps and cantonments for this examination. With the exception of some of the organization which went abroad early last summer, all of the men have been subjected to these examinations, and more than 15,000 cases deemed unsuitable for military service by reason of the existence of nervous or mental disease or defect have been recommended to the disability boards for discharge—about 1.5 per cent.

It is too early as yet to say what influence on the health of the Army this elimination of unsuitable material will be in actual hostilities, but we feel sure that many thousand fewer beds will be occupied in the military hospitals by reason of it, and the men who otherwise would have occupied them will be at home doing what they can in industry and helping to support the fighting men at the front.

Notwithstanding the care that has been exercised in prevention by elimination, we shall have mental and nervous patients to care for, and provision has been made for the insane, epileptic and psychoneurotic. At the Government Hospital for the Insane at Washington, temporary buildings are being erected to care for 500 additional patients; General Hospital No. 4, Fort Porter, N. Y., has been set apart for the care of the insane, and when necessary other accommodations will be made available.

In neurology and psychiatry, however, the reconstruction will be almost wholly mental. Practically every soldier who has been confined to the hospital will require some mental reconstruction to counteract what is known as hospitalization —the habit of being idle and dependent, and of being waited on and needing guidance.

The experience already gained in our civil and military hospitals for the insane has shown so well the advantages of work in the cure of the insane that its usefulness is no longer questioned. It is planned to place the work in charge of instructors who have had experience in work of this kind in civil life. These instructors will be commissioned officers in the Medical Reserve Corps and Sanitary Corps. They will be assisted by civilian aides—teachers of arts and crafts, agriculture, landscape gardening, shop-work, and, in fact, all occupations which have been found in the past to be adapted to the purpose.

It is believed that war neuroses, the so-called "shell shock," can be treated most successfully in hospitals apart from other classes of patients. Their symptoms are such as to attract attention—sometimes ridicule, sometimes sympathy. Any notice of this kind only serves to accentuate the condition and prolong the attack. The best results have been obtained abroad by impressing on the mind of the patient that his case is a hopeful one, that recovery will occur as soon as he exerts himself to gain self-control. The well meant visits from relatives and even strangers usually do harm. The patients should remain under a modified military discipline, and as soon as his condition warrants, exercises in the form of drills and marches are to be employed, and in the intervals and also earlier in the disease, while the patient is yet confined to bed, occupation which will serve to divert his mind from his symptoms. Occupation will also aid to gain better control of his muscles, to overcome tremors, functional paralysis and other physical symptoms which interfere with his activity.

A hospital for war neuroses has been established at Plattsburg, N. Y., utilizing the permanent buildings of the Army post which is situated there. It affords accommodation at the present time for 1,000 patients, and other buildings available, after repairs and reconstruction are completed, will have sufficient capacity to afford accommodation, if necessary, for 2,000 patients. There are ample grounds for agriculture and gardening, and shops will be provided and equipped to afford remunerative employment to those patients who are not suited for outdoor work. An officer commissioned in the Sanitary Corps, to be known as educational director, will have charge of these activities under the direction of the medical officer in command. Instruction in various arts, crafts and industries will be provided through civilian aides.

The importance of recreation has not been overlooked in formulating plans for the treatment of these patients.

The objects to be attained in the therapeutic employment of the insane and neurotic are to divert the mind from delusions and morbid introspection into more wholesome channels of thought. The element of interest should not be overlooked. As soon as work becomes mechanical, requiring no exercise of active attention, the mind is free to pursue morbid trains of thought, and the employment results in no further benefit to the patient than perhaps some improvement to his physical condition.

Exactly the same benefit can be derived from play as from work. In fact, the distinction between work and play is perhaps more an economic than a physiologic consideration. Mere diversions, on the other hand, where the patients are entertained by the efforts of others, they themselves remaining passive, are of distinctly less value but have a place, provided the element of interest remains strong.

The best results will be gained by a judicious combination of remunerative work combined with sports requiring activity of mind or body or both, so arranged that the day will be fully occupied for each individual according to his particular requirements.

As convalescence proceeds and the ability for continuous mental application is strengthened, opportunities will be afforded the soldier to prepare himself for his return to civil life and the responsibilties of self-support. The way out of the realm of mental disability has led him to the curative work shop, and through this many find opportunities for increased efficiency and larger remuneration on his return home in the advantages which will be his for taking in the vocational school.

DISCUSSION

SIR JAMES MACKENZIE, London, England, said:

If I am to be of any help to the doctors who are engaged in this work, the first thing I would say is to keep your head and exercise common sense. You will discover that these wonderful diseases that have been described are nothing more nor less than those you have encountered in your general practice. Speaking as a general practitioner, let me say that you will discover that the principles of treatment that you have employed for yourself and for your patients are the best for the soldiers. You know that when you get tired and overworked or have perhaps some slight illness so that you feel weak and irritable, your wife suggests you should go for a holiday. Wives are generally very wise in these matters. You come back wonderfully recovered. That is the treatment the vast number of these soldiers want when they come back from the front "rattled." In place of simply calling them "rattled," we call them all sorts of fancy names. Simple treatment is what is needed. Arouse the soldier's interest in life and outdoor sports.

I would put recreation in the fore front as a cure for a great number of nervous diseases that effect men. I for one always take care not to speak about things that I do not know, and of shell shock and similar neuroses I will say nothing except that they are a form of what we have long known as neurasthenia. I cannot distinguish them from that, nor can I see that the so-called neurocirculatory asthenia is any different from neurasthenia, at least what we will find in the surgical wards.

The admirable hospital shown us was excellently adapted to the purposes for which it was designed, except that there should be a great space reserved for games. If you study a large number of people you will find that some have the game spirit, others have not. As a therapeutic measure, games have never been sufficiently recognized. I know that I used to avail myself of the curative power of games to a great extent when I was in general practice. In addition to the game spirit there is something which I do not encourage, however, to too great extent—a little bet is wonderfully stimulating.

When the government at my suggestion established a hospital for the study and treatment of cardiovascular diseases, one of the propositions I laid down was there should be sports attached to it, skittles, bowls, croquet or anything else. It was not workable then, and somehow or other they could not get my idea, so my idea has never yet been carried out in a systematic manner. But I have succeeded in getting my men well far more rapidly than those who performed perfunctory exercises in hospitals. The principle that one must avail of in all cases is to get the man out of himself by arousing an interest in sport.

The greatest problem is how to measure properly or assess the value of symptoms. It has never been attacked in a scientific manner. What is the result? Simply guessing. When you say, "This man is not fit," or "This man is fit," you are simply guessing. As an illustration, let me refer to the question of murmurs. They form a large part of the consideration in regard to the mental possibilities of the patient. When through the use of the stethoscope we try to know what the meaning of murmurs is, we search in vain for a clear definition or for knowledge how to assess the value of the murmur. It is laid down as being impossible of assessing. Twenty years ago one of our great physicians in Scotland, Sir William Gardner, in addressing a body of men who were supposed to be specialists in heart diseases, men who examined for life insurance, made this statement, that "Whether it will be possible in the future ever to assess the value of the murmur, I cannot tell. At present we do not know what to do with it. We either reject the candidate or we write him up, or we ignore him; but there is no principle whatever that guides us." Bear that in mind. I would seek to ask you strongly to consider that question whether you should not be able to assess the value of this sign on scientific lines.

I have after thirty-five years endeavored to evolve a principle which will guide you, and if you will carefully understand the meaning of it probably it may help some of you. A man turns up, you discover a murmur or peculiarity, or he has pain, or some other condition, and he wants to know what his future is to be. Now I have devoted the greater part of my life to the solution of that question; it has meant an enormous amount of work, the taking of hundreds of individuals who have had murmurs or pain, and I have kept note and have watched them as they proceeded through life; boys growing into manhood and pursuing military and other occupations; women and girls growing up, getting married, having children, watching the effect of pregnancy, taking a large number of observations, sometimes over a period of twenty-five or thirty years; and I have worked out certain conclusions.

When I write those conclusions down they can be summarized on a scrap of paper about the size of an ordinary page. They are simply common sense rules; for instance, in regard to heart affections you have to consider the efficiency of the heart, how the individual responds to effort—and there is a lot in that last. After all, in estimating the value of any peculiarity it is a matter first of all of common sense.

The essential fact to be determined in every case always is: What can the heart do? What does it do? In answering form questions, in all cases that last and most important question is always left out. That is just as important in the army as in examining for life insurance. When you come to deal with returned soldiers, out of a hundred thousand that will come back from the front you will have 10 per cent. of them invalided out of the army because of some abnormal sound of the heart. Just before the war I had drawn up and Sir Alfred Keogh had recommended for adoption my description of how to assess the value of these abnormal sounds of the heart for the use of the army. Time went on, and it was simply ignored. You cannot begin to teach by a simple memorandum men who were taught on wrong lines in the schools. Just before I left London a typical case came before me of a young fellow who was invalided out of the army because he had a murmur which in my opinion was physiologic. His consciousness of that murmur had broken him down and rendered him unfitted for his work. The consciousness of something of that sort has a most astonishingly depressing effect. I have seen large numbers of such cases. For instance, a farmer came to consult me because he was not able to do his work. I asked him as to his condition, and his reply was vague and indefinite. I said, "What started your illness?" He said that he went up to be examined for the army and was rejected because of a murmur, and he had never been able to work since.

A careful record should be kept by those who are engaged in examining for such symptoms of these people and followed up in their after life to find what happens to them, because there is a great lack of knowledge in regard to what happens to people with these simpler affections. This is an opportunity for advancing the cause of science which let us hope will never come again. But we have here the opportunity to study and classify these cases, and arrive at some conclusions that will eventually enable us to assess accurately the value of these special symptoms. If some of you young men will

undertake this work, twenty years hence you will be able to form some idea of the prognosis.

CHAIRMAN BILLINGS said:

The point brought out by Major Hutchings and Sir James Mackenzie I desire to emphasize. I want to drive home, if I may, the fact that these disabled soldiers should have the opportunity for active physical exercise which play embraces. If we have learned anything from overseas it is that active exercise as a physictherapeutic measure takes the place of passive exercise or massage to a great degree so that active control—military control, if you please—does much more to restore function than passive exercise. Yet of course massage or passive exercise has its place, and particularly for the maimed man. But control cannot alone be used. Active exercise in the form of baseball, football and tennis can be used as a curative measure for these men. If we are to give them this opportunity we must have land enough provided with our general hospitals to have playgrounds as well as work places. We must have paved streets and necessary buildings with appropriate surgoundings so as to conduce to the health and spirits of these men. To do this work well the Surgeon-General should have these hospitals located suitably for the purpose for which they are to be used.

Reconstruction of the Defects in Hearing and Speech

LIEUT.-COL. CHARLES W. RICHARDSON said:

The administration of this section of the Division of Physical Reconstruction will be both military and civil. The military staff will consist of a director and assistants. The military staff will be composed of an assistant director, inspectors and a surgical staff in charge of necessary medical and operative procedures. The surgical staff will be the members of the otolaryngologic section of the Division of Surgery of the Head, attached to General Hospital No. 11, Cape May, N. J., or surgeons elsewhere designated by the section of otolaryngology, to perform such operative work and apply those therapeutic resources as the directors of these sections may mutually deem necessary.

On account of the character of the disability in a large percentage of the defects coming under the charge of this section being of such a nature as to require reeducation, it is necessary to have an educational staff to meet these requirements. This staff will consist of: (1) superintendent; (2) principal, and (3) teachers. The superintendent (selected) is to be a man. The person selected to fill this office is a man coming from one of the largest institutes connected with the teaching of the deaf, a person who is thoroughly conversant with the methods employed in all its phases. The principal (selected) is a woman who possesses a keen knowledge of the principles to be employed in the correction of defects of hearing and speech. She has already had a large experience in pedagogic work and in maintaining an *esprit de corps* among her teachers.

As women have in a greater majority than men devoted their energies to this pedagogic endeavor, we have found in selecting teachers that it was wise to accept as candidates for positions as teachers, women well trained in lip reading. We have already listed sixty candidates for positions as teachers for the defects in hearing. These teachers are thoroughly trained in the teaching of the adult hard of hearing, and constitute practically the pick of the United States in this work among those who are able to accept service. We have also listed forty-six teachers who are willing to serve under various individual restrictions. The selection of teachers for corrective speech work has not been so easy a task as the selection of teachers for defects in hearing; nevertheless we have succeeded in selecting some excellent material. We have already listed thirty-seven candidates for teaching positions in this field of endeavor. It is quite probable if there is an increase in patients over what is normally expected that it may be necessary to assign also a principal to the teachers of speech correction.

As it is possible that a colony system of reconstruction may be established later, and as it will probably be necessary to delegate teachers to go to other hospitals to teach patients whose major wounds hold them at general hospitals for full reconstruction, it will be essential to have inspectors to oversee the work. We have in view, already in the service, several male instructors who will make most competent inspectors.

The defects in hearing are acquired in manifold manners:

1. We have those due to the ordinary diseases of the ear, common in civil life—abscess of the ear, both acute and chronic, and acute and chronic catarrh of the middle ear. These are simple infections or secondary to the acute infectious diseases.

Those due to warfare are: 1. Shock concussion. This type of case is most frequently due to the action of a single high explosive shell in the immediate vicinity of the one afflicted. Many of these patients eventually recover their hearing completely. 2. Concussion deafness. These cases are usually due to the continuous action of high explosive and shrapnel shell, hand grenades and the more or less continuous play of machine guns. On account of the continuous concussion transmitted to the labyrinthine structure there are evident organic changes produced in the internal ear with the result of permanent impairment of hearing. 3. The slowly progressive type of concussion deafness as so commonly observed in gunners and artillery men. 4. Traumatic, due to casualties about the auditory apparatus or head.

Defects in speech are: 1. Mutism, most frequently of shock origin. 2. Stuttering, stammering—old cases reestablished; new ones produced during the nervous stress of actual combat. 3. Aphonias, neurotic, overstrain of vocal organs, and due to nerve and muscle lesions. 4. Affections of voice due to gunshot, shrapnel, grenade, bayonet and other wounds of the face and upper air tract.

In considering the various types of injury as the result of war casualties there are two in connection with the auditory and speech organs that bring home to the average layman the horrors of warfare.

The disturbance of the auditory apparatus terminating in immediate or remote complete and permanent impairment of hearing is the most impressive in connection with audition.

In our study of the permanently acquired deafness in the adult in civil life we have been impressed with two important features, not physical, apparently correlated with the loss of hearing, i. e., suspicion and social ostracism. These conditions are in no way physically related to deafness, but are more the outcome of the psychology of the deaf mind and the psychology of the nondeaf mind. The deaf person, not hearing what is said around him, becomes necessarily more or less suspicious that general conversation is directed at him personally or relates to his infirmity. We are all well aware that most normal hearing persons have an aversion toward conversing with the hard of hearing or deaf. Add to the state of mind thus created the torment of the various physical subject symptoms, and you necessarily create in the deaf an unhappy state of mind. Contrast a person so afflicted with one afflicted with blindness. The blind has a serene mind born of the knowledge that all mankind extends to him a helping hand, a confidence begotten through the knowledge that universally mankind sympathizes with and is only too happy to give him succor and aid.

The other condition to which I wish to refer is the modification of the voice which is attendent on the terrible face injuries produced in modern warfare. It is a singular trait of mankind that he avoids the deaf and derides the individual who presents difficulty of speech production. These poor individuals are not only subjected to the humiliation on account of their imperfect vocalization, but are subject to the curious observation and scrutiny on account of their facial defects. How different is the mental view held by the general public with regard to these unfortunates and the blind.

It will be the province of the section of defects of hearing and speech to remove these mental attitudes, first, through reeducation and corrective work with patients, and second, through correction of the misapprehension of the layman.

The section devoted to the defects of hearing and speech has well under way the practical development of its plans. The defects in hearing include all those soldiers and sailors whose hearing, with or without casualties of the auditory apparatus, has been completely impaired or reduced to such a degree that their social and industrial intercourse with others is greatly hampered. Defects in speech include those who stammer, who have loss of voice, or whose form of speech is defective from injuries in the speech-producing organ.

The method of procedure to be adopted in the reeducation of the defects in hearing is through stimulation of the auditory centers in certain cases; through lip reading; and, where lip reading is impossible of results, through manual teaching.

The defects in speech are to be taught along the lines which have been established for the restoration of the neurorespiratory cases. Those cases the result of injuries to the upper air tract and face attended with loss of soft and hard tissues to greater or less extent, will require individual study as to the desirability of further prothesis or operative work for the replacement of lost parts; support and reapplication of attach-

ment for muscles, or release of scar contraction in order to restore impaired voice production.

A careful study is being made of synonyms or homophonous words so that where as result of injury certain single or groups of muscles cannot functionate, that synonym which can be used by the patient may be suggested, and used as a substitute word or phrase in the patient's vocabulary.

The location of the parent school or teaching hospital will be temporarily at General Hospital No. 11, Cape May, N. J.

This department of the Division of Physical Reconstruction is presided over by a director, with the rank of Lieutenant-Colonel, M. C., N. A.

It is very satisfactory to note that the American Association to promote the Teaching of Speech to the Deaf; the Volta Institute; all heads of teaching methods; all institute superintendents, wih whom we have had the pleasure of consulting, and all teachers of corrective speech with whom we have consulted, assure us of their hearty aid, support and sympathy, and express their approval of the scope and ultimate vision of the work we have in hand.

Reeducation of the War Blinded

LIEUT.-COL. JAMES BORDLEY, JR., M. C., N. A., Staff of the Surgeon-General, Washington, D. C., said:

Colonel Richardson, who just preceded me, has made the mistake that is usually made by the world; he has mistranslated the position of the blind. Their attitude is not an attitude of happiness, but rather an attitude of resignation. They are really the Ishmaelites of this century, made so by our economic system. They are unable to procure and maintain their own homes; they have been driven out of the community life; they are not permitted to be a part of any industry. The blind have for centuries asked for a chance, and Colonel Richardson is right when he says they have been extended charity. This is not due to any premeditated purpose on the part of society; it is one of the mistakes of our economic system.

From now on we must conserve, and in nothing is conservation more important than in the saving of human energy. As we reestablish or rebuild that economic system we must remember that the blind are a part of our social fabric, that their brain and brawn must be utilized as an asset to the nation. Strange as it may seem, every great advance in the treatment of the blind has followed in the wake of war, and this war has proved no exception. In England, France and Italy they have suddenly discovered that the blind have a real economic value, and they have started out on a broad scale to study that value, to determine and weigh it; and of all the things that have been produced by this war, none are really more wonderful than the results of their experiments in this direction.

The Surgeon-Generals of our Army and Navy have combined forces, and together they are going to educate the soldiers and sailors and marines. This education is to be given them in a military training school for the blind which is to be located on a magnificent estate in Baltimore. This school is to be conducted by the best teachers of the blind in this country. It is to have every appliance which is known and is available in the development of the powers of the blind. When they complete their courses in that school, trial employment will be given them.

We divide the blind into five classes: those who can work at home, those who can work in blind shops, those who can enter industry, those who can go into agriculture, and the professional classes. We are not going to let any of these blind men get away from us until we know that they are ready to go to work.

We propose to utilize the services of every individual and of every organization which can help in this splendid work. The American Branch Belgian Blind Relief Fund has already come to our assistance in a most substantial way, bringing over $100,000 with which to conduct a certain portion of the work. The American Red Cross, at the request of General Gorgas, has authorized the organization of the Red Cross Institute for the Blind. This Red Cross institute will supply the necessary economic and social supervision for our soldiers, sailors and marines from the time of their discharge from the Army or Navy until they die. This supervision is not to be a charity but a helpful moral support. This institute, for instance, has already organized a purchasing department through which will be bought in quantity, at wholesale rates, the raw materials used by the blind in their homes. They are also organizing a selling department, because one of the great disadvantages of the blind who work at home is the limitation of their market. This selling agency is to take charge of this work of selling the finished products of the blind. It is starting a savings association, because one of the greatest difficulties the blind man has is to get the means wherewith to make his initial investment in material and machinery and tools. This savings association will not only take the man's money and properly invest it and safely keep it for him, but when the time comes for him to work it will be behind him financially and help him wherever he needs help. We recognize that the blind man has three serious difficulties to overcome before he can make his own living: The first difficulty is his own timidity, the second is the misplaced sympathy of his family and friends, and the third is the reluctance on the part of industry to employ him. To overcome his own handicap, we are going to educate him. To help the family to realize the man's ambitions, the man's troubles, to see the necessity for their moral support in his work, we are going to take one member of the man's family to Baltimore and educate her side by side in our school with the man himself. We propose to keep that member in Baltimore in the house that will be conducted by the Red Cross institute at no cost to the family. To overcome the difficulty of the reluctance of industry to employ the blind, we propose to help the blind man demonstrate to industry that he can take his place and do his part.

The speaker now showed lantern slides and commented on them.

On account of the geographic distribution of our Army we are obliged to have two services or plans of work, one in France, and the other in this country. The service in France, so far as blind men are concerned, begins when the man gets back to his base hospital. We have no intention of going forward to that hospital in order to teach him or to help him. So we begin with the service in the base hospital. In that hospital no serious attempt will be made to teach the man how to help himself to make a living. He will only be taught there how to amuse himself. We shall have our professional instructors there, people who can teach him how to play games. Then when he is through with his base hospital treatment and surgical treatment he goes back to the special hospital center which has been designated as the point of concentration for the blind. In this center we shall have our field director for the blind, who will have supervision over all the work throughout the whole of France; under him will be instructors. In this hospital they will go a little further than in the base hospital, and will try to teach him reading and writing and games; in other words, to begin the serious work of making the man realize that he has abilities that can be developed; in other words, to teach him how to shave and dress himself, how to walk with a cane, how to play games, how to write his own letters, and how to read books for the blind. Then we come to the port of embarkation and ocean transportation. Here are helpers or teachers for the blind, who will also teach the men with other handicaps who will come back on the same ships with the blind, so that they can take care of and amuse them also. Thus there will be no point of transition between their work here and their work there; there will be no two weeks of monotony in which they can deteriorate, which of course with the blind is a very serious handicap.

Then we come to the service in the United States. The men come to the port of debarkation, and come into the hospital for distribution. They are summoned before a special examining board which acts as a vocational board. If this board finds that the man's injuries are permanent and nothing can be done for him, he is sent over to our blind teaching school in Baltimore. If they find that he has still efficiency they may send him to a reconstruction hospital. After he has had his surgical work done there and it is found that it is impossible to do anything further for him, he goes to a blind teaching center. This is a military department. It has its instructor who is an experienced man in handling the blind. This is one of the largest institutions in the United States. The instructor is chosen on account of his particular fitness and adaptability. Under him will be teachers and schools and shops of the mechanical and vocational type.

Then after the man finishes his work at the schools we come really to the practical training. After he undergoes his practical training then he gets training in professional work, commercial work, the trades or agriculture. After that work is done then he will take a course in the institute for the blind, and they will follow him in his work in his home for the rest of his life, making sure that his wants are satisfied.

(End of Morning Session)

PROCEEDINGS OF THE CHICAGO SESSION

THE SIXTY-NINTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION
HELD AT CHICAGO, JUNE 10-14, 1918

THE MEDICAL MILITARY MEETING

MEDINAH TEMPLE, WEDNESDAY EVENING, JUNE 12

Medical officers of the Army and Navy occupied reserved seats on the stage. The music for this meeting included singing by the audience led by the members of the American Choral Society and accompanied by the Fort Riley band.

The meeting was called to order at 8:15 p. m. by Dr. ARTHUR DEAN BEVAN, President of the Association, who said:

Ladies and Gentlemen: This great meeting tonight is a war meeting of the organized medical profession of America to pay homage to the great leaders of the medical departments of the Army and Navy, the Red Cross, and conservation, and to hear from their own lips their call to the medical profession. This meeting is one to which the American medical profession has invited some of the great leaders in medicine of Great Britain, France and Belgium. These countries are allies in this war for civilization. These countries have sent these men across the seas to us at this time as the representatives of their respective countries and their medical professions to tell us their story, to give us the benefit of the lessons they have learned, so that we can make the mobilization of our own medical profession more efficient. We welcome them here as our brothers. We feel that we belong now to one great family. We share with them the same fortunes and the same future. We shall stand by them and by all our allies to the end—and there can be but one end. (Applause.) The right, humanity and civilization will prevail. The medical profession and the country are fortunate that in this great emergency the medical department of the Army is under the leadership of a man in whom the entire profession and the whole country have absolute confidence—General Gorgas. (Loud applause.)

GENERAL GORGAS, on rising to speak, was enthusiastically received. He said:

Address of General Gorgas

Mr. President, Ladies and Gentlemen: I am very glad to have this opportunity of speaking to our profession on the subject we have in mind, that is, the accession to the Medical Reserve Corps. We could all understand what conditions were a year ago, and how they are changed at the present time as far as our profession is concerned and their relationship to the military service. A year ago we had about 700 men in the Army; now, we have in the neighborhood of 20,000 commissioned medical officers. (Applause.) The task of getting these 20,000 men into the service seemed a year ago to be stupendous; but we have appealed to all our great associations, and their response has been most prompt and loyal. The result is that we have succeeded most admirably in this first stage of the war.

I wish to express my appreciation for all the profession has done, the organized societies of the country that have helped us; but more particularly do I wish to thank the individuals. We, as a profession, are so accustomed to altruism from the time we are born that we little appreciate ourselves the altruism the rank and file have shown in coming into the Army in this war. The doctor, from the time he first commences the practice of medicine, is accustomed without thought to give a larger portion of his time for nothing than men in any other calling. I have often thought why this was. I do not think a doctor is any better man on the average than men of the same education in the community. It has seemed to me that it is the result of his education. From the time he goes into the profession he is taught that it must be done: that the poor and those who are not able to pay must be looked after. The whole community comes to look on it as a duty of the doctor. The doctor is expected to give half of his income in these ways. No other members of the community think of doing this, but it is so general, so universal, that the doctor never refuses; the community has come to look on it as the proper and just thing for him to do. And so I think that our profession in this war has responded to a greater extent and made greater sacrifices than any other branch of the community; I mean sacrifices in the way of responding to the call because a greater percentage of the members of our profession have answered the call than any other class or any other profession, and they have given without stint everywhere. (Applause.) Men have sacrificed their incomes, sacrificed their comforts, and sacrificed their conveniences. Men who have incomes varying from $50,000 to $100,000 a year have given them up for captaincies. It is a great and laudable thing, and I admire it; but these men have saved money and earned independence, so that when they come back they can live on what they have saved. I want, however, to pay my admiration to the rank and file of the profession, the young men with practices of $2,000 or $3,000 a year, with one or two children, with mortgages on their homes, who drop all these things, knowing that when they come back they will have to commence all over again; and yet these men have come to our aid without any hesitation. So far as I can see there is very little holding back of the members of the profession. I do not see it anywhere; but what comes to me is the man who wants to come in, who gives up home and makes great sacrifices for his country. I wish to express my gratitude to our Corps and to our fellow soldiers for what they have done and are doing. I myself have not the slightest doubt that if we need more men we shall get them. There are many more men in the medical profession who are perfectly willing to make sacrifices as necessity appears more urgent and closer to them.

Finally, I am glad to have met you on this occasion, and I wish to express the gratitude I feel for what you have done in the past. I have in my mind the old definition of gratitude, that is, a lively appreciation of favors that are to come. I thank you. (Loud applause.)

PRESIDENT BEVAN said:

Great Britain at the time of the war saw her duty. She realized that it was a war of civilization against Prussian domination. She refused to stand aside and see Belgium crushed and France invaded and dismembered. She defended for almost three years not only Belgium and France and her own rights, but also our own. We owe her a great debt; but great as it is and late as we have been, we shall pay it. (Applause.) We are going to stand shoulder to shoulder with her and our other allies to help to win this war. Great Britain has sent us three of her strongest and best known men, and I have the pleasure of introducing to you, first, Sir James Mackenzie. (Applause.)

Address of Sir James Mackenzie

SIR JAMES MACKENZIE said:

Mr. President, Ladies and Gentlemen: I cannot tell you how much I feel at the cordial reception which you give us and the cordiality with which we have been received ever since we landed in America. I had the fear when I came here that I would meet a people who were somewhat lukewarm. Your enthusiasm has exceeded anything beyond what my imagination could have thought about. (Applause.) I have had my suspicions that this was peculiarly an enthusiasm limited to the medical profession, because every medical man that I met was kindness, cordiality and encouragement itself. I have asked them about it, and there is no individual in the whole population that knows the people so well as the medical man. I have asked them time and again how do the people among whom they live look on the war at present, and they have unanimously informed me that the people are just as ardent as they are themselves. Time was when we were under the impression that the American people thought there was not much difference between the English and the Germans; that we are in the war to get something. Now, ladies and gentlemen, I was one of those stupid English people who trusted the Germans, who never believed there would be a war. I was warned time and again by my friends about

what was coming. One of my friends, Professor Sherrington, a great physiologist, came back from attending a meeting of physiologists in Germany in 1912 and told me of the sentiments expressed by the physiologists, that they were preparing for a war against England; that they were going to down the English Navy. Well, I thought I knew the Germans pretty well and I trusted them. When the war broke out, when all of what I had believed regarding Germany was dispelled, I was staggered and said to myself, is this a quarrel between Russia and France? But when Belgium was hit, to whom we had given word that we would stand by her, there was no longer any hesitation of what we should do, and from that time we entered the war with grim determination that never shall the sword be laid down until Belgium, Russia and other countries shall be as free as we are today. (Applause.)

There is great difficulty in understanding why this war should have come about; but as one with open eyes looks on the people he discovers not only the mere tendencies of the people but the curious life of the people themselves which it is difficult to express. We have a common phrase known to Englishmen and Americans of what is a gentleman, a man of honor, of integrity, and of chivalry. The kaiser said he wanted this war fought like a gentleman. Where was his chivalry when he murdered Miss Cavell? Where was his chivalry when he sent to the bottom of the ocean innocent women and children? The word is unknown to the Germans. There is another matter which shows that the Germans have respect for us which they do not like to acknowledge, and a very simple incident will bring that to light. One of my nephews told me in 1915 when he was at the front with forty soldiers in No Man's Land, there sprang out of a trench a small boy dressed as a soldier, who did not seem to be more than 15 or 16 years of age. He came running to a party of soldiers exclaiming, "Take me prisoner; take me prisoner!" The leader of the party said, "Go away, we do not want to take you a prisoner," but he exclaimed, "My mamma told me when I saw English soldiers to hold up my hands and beg them to take me a prisoner." They left him alone, and the poor little German followed them in whatever they did. Whenever they sat down to eat, they gave him some food. When they went back to the trenches the little fellow begged to be taken a prisoner. Can you imagine an English or American mother in such a state of mind that she would want her boy taken a prisoner by the Germans and that they treat that boy as our soldiers treated the German boy? This little incident, ladies and gentlemen, gives you a sort of idea of the difference of thought that runs through the whole system which governs us and the system which governs them. I thank you for the attention you have given me. (Applause.)

PRESIDENT BEVAN said:

Great Britain has sent to us with this party one of her great surgeons, one of the men who has been doing outstanding work in the reconstruction of the wounded. I am going to call on Sir Arbuthnot Lane to say a few words to us. (Applause.)

Address of Sir Arbuthnot Lane

MR. LANE was very warmly received. He said:

Ladies and Gentlemen: I happened to be the honored guest at a dinner party in Berlin on the occasion of Sir Edward Gray's very firm letter to the Germans about the invasion of Belgium. There were present at this dinner party several officers who were infuriated at the course events took. They told me as their guest that if they could have got money from the Jews they would have blown us to hell. They dilated on the great advantage that Germany possessed over England, of how the Germans were such an exceedingly intelligent and cultured nation, and how the English were such a stupid nation. They spoke of how the English had control over the greater part of the world, but they were quite unable and unfit to manage their possessions; that the Germans intended to take all of their possessions, and as soon as their army was strong enough and their navy was big enough, they intended to destroy France first and ourselves afterward. I was amazed at the candor and turned around and expressed my astonishment. I am not sure that there isn't a certain element of truth in our stupidity as a nation. (Laughter.) As you know, Lord Roberts told us what was coming. We did not believe him. When I say we, I mean the large majority of the people in Great Britain. They did not believe it because they could not imagine any nation would be so unscrupulous and dishonorable as the Germans intended to be.

We were fortunate in coming from England in having as our companions some very big men and women connected with industries, and it would be difficult to match these men and women for intelligence and for their grasp of the general situation. It was certainly a liberal education for us and I think we took full advantage of it. They told us they had gone over there to see the suffering and bravery of our noble allies, and the immense losses of the Belgians and the French. The Italians had suffered greatly, and they wanted to realize what we and those nations were doing to help on the progress of the war. They told me that they were coming back to America to tell you of what was being done there and to encourage you to take a more active part in the war than you had done. They amazed me by saying that there were numbers of people in America who took little or no interest in the war, and I said to myself that there must be some mistake somewhere, for wherever I have gone the medical profession has preceded any other profession or any other body of men. (Applause.) But among every other part of the community I found personally that there was the same enthusiasm and same desire to fight and beat our foe. We have a magnificent example in the leadership of that magnificent nation with which we are so closely associated now. I suppose they have got the finest general the world has ever known at present, and the British have the same general confidence in General Foch that you have, and we are perfectly certain that he will lead our armies to victory. We have no hesitation whatever on that point. (Applause.) Those men and women told me the reception they received in England was the very happiest, and they said they left England with the feeling of greatest regret. One man told me after he had been shown around all day long by one of the heads of a department, the man turned around and said, "Will you excuse me for a few moments. This morning I got a telegram that my only son was killed." That is the spirit that pervades us all, and I am sure the Americans will not be behind us in this respect. (Applause.)

PRESIDENT BEVAN said:

One of the greatest tributes that has ever been paid to a nation has been paid to Great Britain for the response of her colonies in this war, and I am going to call next on a Canadian surgeon who is serving with the medical service of his mother country in the field, Col. Herbert A. Bruce. (Applause.)

Address of Col. Herbert Bruce

COLONEL BRUCE said:

Mr. President, Ladies and Gentlemen: I feel a little more at home with you than either of my distinguished colleagues because my earliest experience in this war was in the Canadian service, and there I met hundreds of your countrymen who, when the Germans were appearing on the roads to Paris, forgot about the imaginary line and came over and joined our Canadian forces and helped to add to their fame on the field of battle. We recollect in the dim and misty past some feeling of coolness and at times bitterness about this imaginary line, but thank God the shoulders of your young men and our young men touch as they march against the foe, and the German war lord has realized that the bond of liberty representing the nations of the world has been united stronger than his cannon and more enduring than any war machine that any future autocrat may devise. (Applause.)

Serving in the imperial forces for something like a year and a half, I have had somewhat varied experiences up and down the line from the North Sea to Switzerland, but never in my life have I been as deeply and as profoundly stirred as when I looked into the faces of the tear dimmed eyes of the generous Parisian crowds when they saw coming into their city that great American soldier, General Pershing and his staff. (Applause.) From the base up to the line at the front I have seen your men straining at the leash of discipline which held them back, and you know better than we, for we were on the ocean, of the jolt they gave the German soldiers and German morale in their first engagement a few weeks ago. (Applause.)

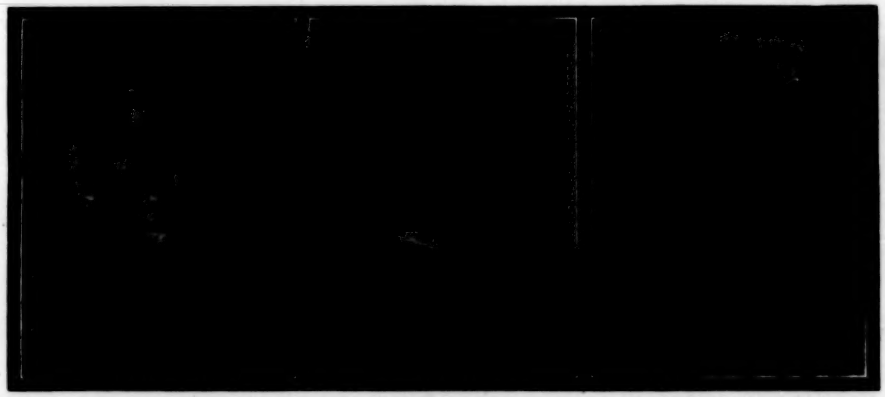
France has had two great emotions—one when the British soldiers came, and second, when the American soldiers came, and France will not forget.

I have had the privilege of visiting all the hospitals which your government so promptly sent to our help, and which are doing such wonderful work for the British sick and wounded in France. You sent us of your best, and it is only necessary for me to mention the names of these well known surgeons to make you realize the excellent character of the work which they are bound to perform:

Majors John Finney and Hugh Young of Baltimore; Majors George E. Brewer, Charles H. Peck, William Darrach, Fordyce, St. John, McCreary and Stevens of New York; Lieut.-Col. Hugh Cabot and Major Harvey Cushing of Boston; Majors Harte and John Gibbons of Philadelphia; Major Fred A. Besley of Chicago; Major Fred T. Murphy of St. Louis, Majors George W. Crile and William Lower of Cleveland, and many others too numerous to mention. I cannot speak sufficiently high of the magnificent work which these doctors and your American nurses are doing.

Before leaving France, Lieut-Gen. Sir Arthur Sloggett, the Director-General of the British Medical Service, sent for me and asked me to tell the American people how much he appreciated the wonderful service which the American doctors and nurses had rendered to the British sick and wounded. He said their work had been beyond all praise. He had been anxious to give recognition to the gallantry and heroism of the American medical officers and nurses serving at the front, and had recommended them for honors, but a regulation of your government prevented their being accepted. Nothing that we can do is too good for the American doctors and nurses serving with us.

Your medical men have willingly taken their places alongside our officers in positions of danger, and have as a consequence suffered casualties in exactly the same proportion as our own doctors serving under the same conditions.



CAPTAIN RÉNÉ SAND
Belgium

M. JUSTIN GODART
France

MAJOR EDOUARD RIST
France

BELGIAN AND FRENCH GUESTS AT THE ANNUAL SESSION

During the recent retirement, although tremendous difficulties were imposed on the Medical Service, the wounded were all safely removed to hospitals in the rear, and none were allowed to fall into the hands of the enemy. The nursing and medical personnel also escaped, although unfortunately suffering some casualties.

If I were to be asked as to the greatest military development at the front during the past year, I would put at the top of the list the creation of a generalissimo to command the united forces, and the brigading of your troops with the British and French into a great united and compact army. (Applause.) And next I would speak of the tremendous war machine that peaceful, unprepared Britain has prepared since the war began. We have heard much, and we do not underestimate the great military power of Germany which she has built up during half a century; but Britain has fought on a score of fronts, has been banker and provisioner to our allies until you took her place. The "contemptible little army" of 100,000 which went over and fought and mostly died was quite unprepared with guns and munitions, and was in the most disadvantageous position as compared with the unlimited supplies which Germany had developed during many years. That small army of 100,000 was replaced by 2,000,000 men, and the meager supply of shells which kept its guns mute for days at a time has grown until the British supply today is more than a match for the Germans. (Applause.) Please consider these facts: Britain's munition works turn out in a single day more big shells than during the whole first year of the war; more medium sized shells in five days than during the whole first year; more cannon in a week than during the whole first year. Her munition plants have a breadth of 40 feet and a length of 25 miles, and these buildings have been constructed so as to be turned into profitable industrial uses when peace returns. (Applause.) And we should not forget that England has increased her steel output from 7,000,000 to 10,000,000 tons; transforming 400,000 motors for carrying munitions and supplies, for the manufacture of agricultural implements, for the manufacture of tanks and railroad engines—in fact, meeting every demand of the war. And no less in her navy have the sailors proved heroes of the war. Every week 5,000 British ships leave or come to her harbors. She has loaned 600 ships to France and 400 ships to Italy. These ships have transported 8,000,000 men to and from her shores, and 10,000,000 tons of war material. Notwithstanding the submarine, her merchantmen sail the seven seas. (Applause.) During the first few months of the war not less than 200,000 women were engaged in war industry; today there are 1,000,000 women so engaged. (Applause.) Of the 4,000,000 workers the women constitute one fourth, and their number is daily increasing, and not less than the men are the girls and women soldiers, heroines. (Applause.) The girls handle the deadly T. N. T. and the still more deadly fulminate of mercury with a steadiness of hand and a smoothness of movement that has demonstrated in every instance they are superior in this regard to men. (Applause.) All grades of society are occupied and every branch of industrial life are all linked together in England's need. Social distinctions have been leveled in the democracy of overalls and caps. A woman worker, whose husband had died at the front, took a day off, and then returned to her work. In the evening the superintendent of the factory found this inscription chalked on one of the lathes: "Done fourteen today; beat that if you can, you devils." (Applause.) Such is the spirit of the women.

I recall the incident when Great Britain sent her expedition to Ashantee, and when a colonel of the Scotch Guards was addressing his men he said to them, "I will not command any one to go on this expedition; there will be suffering; there will be misery; there will be hardships; there may be death. Let every man who will volunteer to follow me take one pace to the front." So saying, he turned his head so as to give the men time to think and to act. Looking around, a flash of indignation went over his face as he saw the line was as solid as it had been before. He turned to his men and said with a touch of scorn, "My God, the Scotch Guards and not a single volunteer." A sergeant, touched to the

quick at the rebuke, rushed toward the colonel and said, "Sir, that whole line stepped forward." (Applause.) Ladies and gentlemen, what a great thing it would be for the nations of which we are citizens, for the homes that we represent, for the principles for which we fight—yea, for the institutions which we uphold, if we could all catch that vision and, looking into the face of the generations yet to be, say to them, This has been a bloody business, but the whole line of civilization has stepped forward. (Applause.)

There is a light about to gleam,
There is a font about to stream;
There is a midnight darkness changing into day,
Men of thought, and men of action, clear the way.

(Loud applause.)

PRESIDENT BEVAN said:

The republic of France; glorious France; immortal France. We are proud to be again your ally. In our struggle for independence you made it possible for us to establish for the first time in modern history a government ruled by the people.

We have owed to you for more than one hundred years a great debt; we come to pay it now.

General Pershing, standing before the tomb of Lafayette, expressed the feelings and the emotions of America when, with uncovered head, he said, "Lafayette, we are here."

striven to set forth the highest possible ideals and standards of medical education and medical ethics. It has fostered with unequaled zeal the ideals of devotion to mankind. There is no more public spirited body of men in this country than the American Medical Association. What you have achieved during the first fourteen years of peace of this century is, I am sure, the greatest work which any organized profession has ever endeavored to do and has ever succeeded in doing. The present condition of your medical schools, of your hospitals, of your state and city health departments, the value of scientific work which is constantly coming out of your laboratories, are ample testimony to the idealism of your purpose and to the efficiency of your methods. They are an example and a model for the whole world, not only for their intrinsic value but for what they show us. They show what a self-conscious, well organized, democratically organized medical association can achieve when it is inspired by a common ideal and by self-disciplined energy. You have been in the service of your country during peace, and now you are in her service at war. Indeed, the spirit in which your Association entered this war, unreservedly devoting itself to the pursuance of it is, in my opinion, a most fitting symbol of the spirit in which the American nation as a whole entered this war. (Applause.) Your iron will, your clear sighted and unyielding determination will guide and direct the American nation up to the end—and there can be only one end—

COLONEL HERBERT BRUCE
Canada

SIR JAMES MACKENZIE
England and Scotland

SIR WM. ARBUTHNOT LANE
England

BRITISH GUESTS AT THE ANNUAL SESSION

(Applause.) France has sent to us four of her strong men. I shall introduce to you, first, Mr. Justin Godart, who has done outstanding work for the medical department of France in this war. (Applause.)

MR. GODART spoke in French. He referred to the splendid and unselfish work that is being done in France by the American representatives of the Red Cross, and of what American physicians and surgeons were doing, and stated that France and other countries owed America a great and everlasting debt of gratitude for what America had done and was now doing.

PRESIDENT BEVAN said:

I shall call next on one of our French colleagues who comes direct from active service on the Western Front, Major Edouard Rist of France. (Applause.)

Address of Major Edouard Rist

MAJOR RIST said:

Mr. President, Ladies and Gentlemen: On behalf of the French medical profession at war, it is my privilege to address the American Medical Association this evening. To my last day I shall be proud for having had this privilege.

Your Association has always stood for everything that is best and noblest in this, our most noble profession. It has

and there is no more fitting symbol of the perfect friendship and confident cooperation between the nations who are fighting together this great war than the friendship and cooperation which prevails between the medical professions of the allied countries. They are all bent on the same purpose and united in the same feeling of duty toward their country and toward our common cause. (Applause.)

Meetings like this, at which the medical men of the United States, of Great Britain and her Dominions, and of France sit together in order to exchange their observations and views and to learn from each other, used to happen only once in a while before this war. Now, believe me, they are almost daily occurrences, not, of course, on this gigantic scale, nor in such a beautiful hall; but over there in France the medical men of the allied nations are in constant touch with one another. They cooperate daily in every way: in the evacuation work of the wounded, as well as in the medical and surgical care of the wounded and sick, in the equipping and building up of hospitals and the relief of refugees, as well as in scientific research connected with war problems. We have learned to know each other and to love each other. (Applause.) American medical men in France have made a name for themselves, not only because of their professional excellence but because of their perfect courtesy, their delightful simplicity of manner and generosity of heart. I cannot

tell you how rapidly and how completely you have won our sympathies. The medical men of America have given first to us, even before the American nation entered this great war, and we shall never forget it, and now we have your fighters with us, your boys. What they are doing now on the battlefields speaks for itself. There are no words which can describe it and which can express what we feel about them. Let me tell you just one thing, they are as dear to us as our own boys. (Applause.)

Germany has repeatedly announced to the world that her intention was to separate the allied nations from each other. This she is trying to do by military action as well as by political intrigue and propaganda; but the real outcome of this war is and will be more and more to draw close to each other all the nations who are fighting for the freedom of the world. (Applause.) During the terrific drive which the Germans attempted on the Somme River this March and April, they publicly stated that their immediate aim was to separate the British Army from the French Army; but they succeeded in uniting these two great and glorious armies tighter than they had ever been united, under one supreme command. (Applause.) They succeeded in provoking General Pershing's generous and welcome proposition to blend together American units with British units and American units with French units in the same regiments and in the same divisions. (Applause.) There were three allied nations' armies on the western front. There is only one army now. (Applause.) There is one army made up of the combined strength, skill and courage and devotion of the three allied nations. That is how they separated us.

Ladies and gentlemen, there have been many explanations given of the mental distortion which has made Germany a criminal among the nations of the world. What infringement of the natural laws of moral and mental soundness can be made responsible for an attitude of mind which is so utterly repulsive to us? In my opinion, among the many delusions of which the German nation has been a victim, the most important perhaps is the delusion of growth. Growth is one of the most important and mysterious phenomena of biology. It is beautiful in itself and fascinating to study, but it has its limits, and it has its own end. In every living species there is a specific fixed limit for the growth of the individual, and the perfection of the individual must be realized within these limits. It is the same with the organs within our bodies. Growth which exceeds those limits is not only abnormal and ugly, it is dangerous and destructive. A butterfly which grows to be as big as an eagle would not be more beautiful or more perfect; but a butterfly is just as beautiful and perfect in its small size as the majestic eagle. Now, that is the thing which the German nation cannot understand. Belgium was only a small nation, but just as industrious and as ingenious as the big German nation. It has played a great part in the history of civilization, and it has produced everlasting works of art and of science. But Belgium was just a small lovely butterfly which had not been able to grow as big as the German eagle; therefore, it had to be crushed and trampled under the feet of the German army. Germany has sacrificed everything to the delusion of growth and for the sake of growth, and the other nations have been too slow to perceive it. I need not tell you medical men that there is such a thing as a malignant growth of a tissue or of an organ. It begins invisibly and noiselessly, and no doubt the first stages of a new growth are very interesting to study under the microscope and it makes very nice figures. Have we not been watching this strange and uncanny growth of the German nation with a little too much friendly disinterestedness of the pathologist? But now this malignant growth has shown itself in its true light. We had better call it as the people do a cancer which separates the normal cells from each other, which obliterates blood vessels and destroys and kills. There is only one remedy for this growth—the knife. (Applause.) It is applied now. The surgical team doing the work is the best the world can afford. Great Britain, France, Italy and America are at it. Let them do the work thoroughly so that there shall be no recurrence. (Applause.) Let them extirpate this malignant tumor, this poisonous German growth, lest it should infest the whole body. It is hard work, gentlemen, it will be long work, and it is ugly work; but it has to be done if the world is to be saved and freedom restored. (Loud applause.)

PRESIDENT BEVAN said:

Brave Belgium; bruised and tattered Belgium; despoiled and devastated Belgium; outraged and enslaved Belgium, but unconquered and unconquerable Belgium. (Applause.) We and our allies pledged ourselves to free and restore you, and we shall redeem our promise. We asked Belgium to send us that great surgeon so well known to the medical profession of this country, Dr. Depage, whose wife had endeared herself to so many American hearts and who lost her life in the sinking of the *Lusitania*. On account of the military emergency, Depage found that he could not come, but he has sent his right hand, his assistant, Captain Réné Sand of Belgium, whom I now introduce to you. (Applause.)

Address of Captain Réné Sand

DR. SAND said:

Mr. President, Ladies and Gentlemen: Your hearty welcome tells me—and it is not the first welcome since I have been in America—what Belgium means for your country. I will tell you now what America means for Belgium. We did not know you very well before the war. We had heard of your immense resources and of the constructive spirit of your democracy; we had heard of your creative and inventive genius, but we did not know what is most important and the most valuable part in a man as well as in a nation—your heart. (Applause.) Now we know. You have stood by us and for us since the first days of our fight. You have succeeded by a plan that is unique in history in feeding, in clothing and in keeping alive our whole nation during months and months and months across the ocean. You have sent your splendid doctors, your admirable nurses, your Red Cross representatives, but you have done more than that; you have given us your hearts, and today the whole Belgian nation gives you back love for love. (Applause.) Every parcel of food you have sent over, every toy that the American boy has deprived himself of in favor of the Belgian child, every penny you have saved for our children has been not only a material but a moral relief. Every day, for almost four years, you have given to 7,000,000 Belgians that sweet and warm and strong feeling we have around our hearts when we know that somebody cares for us. I will not thank you nor praise you for what you have done. It is beyond praise and beyond thanks. A young brother does not thank his big brother who has helped him; he loves him, and that surpasses everything, and that is how we feel for you. (Applause.) It is in this love which is born from our misfortune and through your generosity that the fraternal love for America and Belgium stands united forever. (Applause.)

PRESIDENT BEVAN said:

It is the purpose of the American people to create and maintain the largest and most efficient navy in the world. The medical department of that great navy, that greatest navy, is being splendidly developed by Admiral Braisted, whom I take great pleasure in introducing to you tonight. (Applause.)

Address of Admiral Braisted

ADMIRAL WILLIAM C. BRAISTED, Surgeon-General, U. S. Navy, said:

Mr. President, Ladies and Gentlemen: I have been enjoying myself today in going over your magnificent training station at the Great Lakes, and I have come here very tired, but very much enthused over what I have seen. Not having prepared anything special for you, I am going, if you will permit me, to run over a few things that have been going through my mind today. First, the seriousness of the situation, the extent of the problem just before us. You may have noticed a few weeks ago a tendency on the part of Germany, so it seems to me, to attempt to strengthen the bonds of the states which compose the middle Europe empire that she is attempting to make. That is loosely accomplished. An enormous territory has been demanded by Germany. In addition to that, we have the enormous area of Russia, and we have been told that German prisoners taken by the Russians were encouraged to bring about friendly relations, to intermarry, with the idea of creating the feeling that Russia and Germany should be one. So you see we have before us an enemy with tremendous territory, with the possibility of enormous supplies both for food and for material supplies or manufactures with millions of men. I imagine Germany's desire is to create this enormous middle Europe empire, hoping probably to take some, if not all, of the channel seaports. It seems to me, I can see in that extent of her ambition what she is attempting to do. This territory, of course, may be increased over into Asia Minor as that union is very loosely joined, and it will be her attempt to strengthen and demand that, and if that should be done, you see we have

against us these millions and these supplies and the possibility of a bitter war being continued for an indefinite time. It has seemed to me that we must be prepared for an indefinite struggle, for a struggle against a bitter foe, a relentless foe, where there is no compromise, and it will take from us every bit of energy and every bit of strength and every bit of patience and every bit of resource that we can possibly assemble to overcome this struggle we are now in.

In the Navy we have been through something over a year of war. I look back as Surgeon-General of the Navy with a great deal of satisfaction on the year that has passed. It has been a splendid year for us; it has been a very active year. We have been in the war since the first of April a year ago. In the Navy it has been active warfare. Much has gone on you do not know about, but in time you will be shown the important part that the Navy has been taking in this war, and it has been largely responsible for the success that we have had as far as we have progressed. I view with much pleasure the remarks that have been made about the Medical Corps of the Army and its work. The health of the Navy has been good. We have managed to expand good hospitals. We have hospital ships which we have managed to equip splendidly, including transports, and this work has been done admirably and in a very rapid manner. All this work has been accomplished in the medical department by ourselves. I have asked no help from any one. In time we may ask for help. As yet, we have not asked for one bit of help. That, I think, must show the splendid organization with which we have started, an organization founded on many years of study and of trial, so that I feel we have in the Navy an organization which is complete, and that success demands only material supplies and personnel.

So far as the health of the personnel of the Navy is concerned, of nearly half a million men, it is running about as it does in peace times. At the end of the week of June our casualties, deaths, for all diseases in the Navy was only 2.8 per cent., a very excellent showing for the whole length of the war from casualties due to disease in every quarter of the globe, casualties due to accidents, casualties due to military activity, etc. We have lost out of half a million men which we have now about four men a day on an average. When I first figured that up it seemed to me that it must be impossible that the mortality should have been so small as that. Of course, the conditions that exist in the naval service are far better than you find them in civil conditions in every way. Nowhere can you find sanitation that compares with that we have in the Navy. Ship sanitation must always be most careful and the most improved. Did you ever think of what would happen if contagious disease attacked the fleet and could not be controlled? I have in my time stood face to face with conditions which made me think that the entire fleet would be necessarily affected. To prevent these conditions the utmost care and watchfulness is needed constantly. Very few of you realize the enormous expansion that is going on. Every day something undreamed of or unheard of comes up and is calling constantly not for a change of organization, because we know what to do. We do not have to be told what to do, but the question arises, Am I going to have material supplies to do it with and the personnel? That, gentlemen of the American Medical Association, is where I am going to ask your help. As I have previously said, so far we have done it ourselves. You have heard nothing from the Navy being unequipped. Everything is all right. Everything is fine, but I shall ask your help and your cooperation at any moment when I feel that there may be need of it, and I know as I look in your faces I shall not ask in vain. Everything that can be done by humane men will be done by you to help me in my work in the Navy. (Applause.) But remember this: the Navy has always been ready; the Navy always will be ready, no matter what may happen in this struggle that is going on. We are ready, we are brave, we are strong, and we are resourceful. You need have no fear that your Navy will not acquit itself with credit wherever it may be. (Applause.)

As I went out today to the Great Lakes Training Station I saw the finest and largest naval training station in the world, with 35,000 of the finest young men I ever saw in my life. (Applause.) As I stood and looked at them as they passed in review, the thought came to me, what will be the outcome of this war? And I said to myself, the answer lies in the faces of these boys. (Applause.)

PRESIDENT BEVAN said:

In the organization of this country for war, it became early evident that the food problem was a vital one. The conservation of our food resources, the proper division of our own bountiful food supply with our allies was regarded by the government at Washington as a problem of first importance. Probably the most efficient man in the world was secured for this task, Mr. Hoover. (Applause.) Mr. Hoover has called to his assistance many of the ablest men in the country, and the ablest of them all we have with us tonight, and I want to introduce to you Dr. Ray Lyman Wilbur, President of Leland Stanford Junior University. (Applause.)

Address of President Ray Lyman Wilbur

PRESIDENT WILBUR said:

Mr. President, Ladies and Gentlemen: We stand tonight with a catch in our throats watching the great offensive on the other side, for the world is standing breathless today watching the race between the United States and our allies and Germany, and wondering whether we shall have a sufficient number of men in this fight before it is too late. We heard these terrible words from Lloyd George when he said that England was too late at Gallipoli; that England and France were too late to save Serbia, too late to save northern Italy and too late to save great Russia when she began to topple and crumble as no great nation ever crumbled, and the question that stands before us tonight is, Are we to be too late? No one can answer this question, but it is in the minds and the hearts of the American people not to be too late if we are to meet this crisis as it stands. Our safety tonight depends on the integrity of the Italian, the French and British people, and nothing else. (Applause.)

If you will stop for a moment and look back into recent history you will see that the integrity of a people depends on the food supply and on the morale. Hungry people fight only for food. Men are all alike. They have got to eat. When there is no food for the baby, the mother or the wife, men gather together and they tear down the government, no matter whether it be Petrograd or Chicago. We are all alike, and the one vital and fundamental thing is food for fighting peoples. When the Food Administration of this country was organized and we were facing the harvest in 1917, we knew the civilized world was going to struggle in order to go on with its food supply. We have had to devise some method of bringing the American people into that food problem to teach them the necessity of food conservation, the significance of food in war, and the fundamental character of food. Today through a campaign of education and response on the part of the American people, we are going to send out of this country by the first of September 150,000,000 bushels of wheat. Through self-denial the American people have raised 140,000,000 bushels of wheat. (Applause).

Revolutions originate in bread lines. Human beings are all alike. It was the fundamental thing for us to do, and we have sent that wheat and are going to send a sufficient amount of products of beef and other things required. We are going to extend our bread lines wider and wider as the war clouds get darker and darker. The whole thing leads us to hope that the American people can go into this war in the same way that they have the food problem. God has been good to us. Our fields are green. We are beginning to reap the harvest from the crop of 1918. We shall have 300,000,000 bushels of wheat more than we require to send to our allies. (Applause.)

Great offensives are possible when there are great reserves. We have great stores of food in reserve. In the winning of this war, food constitutes a very important factor. I appeal to you members of the medical profession of the United States with your influence among the people to wake up this great country, to stir the people as they have never been stirred before, to make sacrifices and make still greater sacrifices to win this war. Why should we say to France, Go on with this war, when she has lost already 1,300,000? Why should we allow the other nations to suffer large losses without pitching into the heat of battle ourselves when we know that the American people can settle this war within a reasonable time? We have seen what England has done, and we know what we can do; but we must have the spirit, the willingness, the same attitude of self-sacrifice that we have put into the food problem. As I have said, one of the great essentials to meet offensives is great reserves in the way of food supplies and material. It is these things that will

count in the end. President Wilson has said, Why limit the Army to 5,000,000? Why not get 6,000,000 or 10,000,000, and ask the people for further deprivation and further self-sacrifice? We have already been told by the fuel administrators that we are 50,000,000 tons short in coal. Are the people paying attention to this problem? If not, they ought to do so because it is a serious matter. Every unit of human energy must be put into this war. Why not put it in soon? I repeat it again, Why not put it in soon? because I feel the medical profession can get at the important things if it wants to do so, and can make the people realize that only by material things can we demonstrate by our spirit that we mean business. We cannot do it with flag waving and by making speeches. Every unit of human energy must be put into this war by the men and women of the country in order to bring it to a victorious end for the allies. We have got to make the men on the other side feel that the hearts of the American people beat with them, and we must get the material things over there—ships, food supplies, and everything necessary to establish absolute confidence, so that we can hold up their morale and make them realize that our hearts beat in unison with theirs. When that has been done, we can exclaim, Hold that line, you courageous men of sunny Italy, you brave men of France. Hold that line, you noble men of Belgium. Hold that line, you stalwart boys of America! Hold that line until we get the men and guns, so that all together we can crash our way through the western front and settle this war against our ruthless, barbaric foe, Germany! (Loud applause.)

President Bevan said:

When this program was arranged we asked Italy to send us a delegation of their best men. I am sorry to say, at the last minute, Bastianelli, the great Italian surgeon, wired us that on account of the great activity on the Italian front it was impossible for him to be with us here at this meeting. But our hearts are with Italy, and their hearts are with us, and I want you tonight by a rising vote to give me authority to send to Bastianelli and through Bastianelli to our Italian colleagues our greetings and be of good cheer, because we are coming to help them win this war. (Applause.) (The entire audience arose and cheered lustily for Italy.)

President Bevan continued:

On the battle line in the starving countries invaded and devastated by the enemy, in the countries sickened with plague and pestilence, in our own mobilization and everywhere throughout the world is an angel of mercy giving succor to these great armies under the banner of the Red Cross. (Applause.) We have with us tonight one of the men who for more than a year has led the American forces of the Red Cross in France—Major Alexander Lambert. (Applause.)

Address of Major Alexander Lambert

Major Lambert said:

Mr. President, Ladies and Gentlemen: America perhaps distinguished herself when suddenly called to war by going into the war Red Cross hand first. She did not have an army to send, and she sent as rapidly as possible the Red Cross, which is the other arm of her army and the arm of the government. I think very few of you realize how much of a governmental function the Red Cross really is. It is usually looked on as a private society to give volunteer aid to the wounded and to care for the sick, or to stand ready at any time in calamity to help those in dire need. In reality, it is a governmental function—yes, founded on international treaty, incorporated by act of Congress, under the command of the President of the United States, as is the Army and the Navy, and in its incorporation it says that, besides being prepared to give voluntary aid to the sick and wounded, it is the society, and the only society, through which the people of the United States give voluntary aid to their Army and Navy in time of war. That voluntary aid is simply that which any friend would do to help any other friend or any human being in distress. This, in brief, is the work of the Red Cross, and what it is doing and has done is to build up in France an organization to look after the sick and wounded and to render aid to citizens wherever possible.

It has been my fortune to go from the North Sea in Belgium down through the entire front line, down and back to the line, and down into Italy as far as Rome itself. I have no stories of excitement to tell you. It has not been my lot to go into that form of life. It has been a matter of fact work to do and of duty done.

I have often been asked by persons what one's feelings are under fire. What is it that you feel? True it is, for the last two or three months in Paris we have been under a constant queer bombardment of a long range gun which drops a shell in Paris every twenty minutes that explodes without warning and without any previous idea when it was to come or where it was to go. Some nights this cannonading would begin as early as 1 in the morning and keep up all night, and then perhaps cease for a day. The feelings of the boys under fire is perhaps best expressed by one of the engineers at Cambrai. After a battle, an English officer, who complimented him on the efficient work he had done, asked him if he had ever been under fire before, and he replied, "No, sir." "What do you think of it?" said the officer. He replied, "I didn't mind it much, but I noticed it took my mind off my work." (Laughter.) That I think is the best description of a soldier's feelings under fire.

The Red Cross has built up its hospitals to care for the sick and wounded or any other Americans in France. It is built up to care for certain hospitals in conjunction with the Army. The Red Cross is now taking care of the American wounded coming down to the end of the Montdidier line. Besides that, it cares for the refugees. It cares for the people of France that it may help them in their work, because the Red Cross has as much to do with the Allies as it has to do with its own people and with the Army which you sent there. It has found that it could hearten the people. It is not the nation fighting as an army sent forward to fight another army that is going to win, but it is the fact of nations fighting together, and the civilian population that can hold out the longest and stand the strain will be that population which will win the war. The ones that give in first will lose it, and that we must remember. You must learn to realize that you have to bear the great strain coming on you, and that strain will be tremendous compared with what you have already undergone. Your Red Cross has heartened the people among which it lives in caring for the refugees and in giving them attention as the necessity arose.

In the last drive, for instance, in March, back of the line, as they came down toward Montdidier the strain became very great, and the wounded were rushed back in such numbers that the hospitals could not care for them, so it was the duty of the Red Cross to load the motormen's trucks in Paris and have them take surgical dressings that had been made to the wounded. We took the surgical supplies out of Paris to the wounded men to meet the needs of the hour. Strange as it may appear, the Red Cross found some hospitals improvised and the men in them working beyond the power of human endurance. It found them without anesthetics, without any surgical aid whatever. The Red Cross gave them aid. It gave them dressings; it gave them every necessary thing it had and so it fulfilled its mission in caring for the hospitals. The Red Cross is caring for the wounded, in helping to give them those things which the doctors and nurses do not find time to give to the sick. That is one of the things that one friend would do to another in hospitals where there is so-called social service. The Red Cross is everywhere working for and working with to help the boys you have sent across the seas. We are aiding them in the way you would wish them to be aided.

There is a tradition in France that none of the statues of Jeanne d'Arc have been destroyed, and wherever you go it is true. Along the front lines these statues seem to have borne a charmed life for they are still apparently untouched. There is one charming statue at Compiègne facing the hills beyond the line where an attack is now going on. It is only a few miles behind the line. It is the charming statue of a young girl, standing, and holding a flag in her hand. Her face is lifted up in earnestness. As I looked at this statue in the twilight, there she stood calling to those of us to come and help her people. There she stands seemingly as imperishable as the valor of her people. Will you not harken to her call? Will you not realize the moral effect, great as it is? Will you not realize the great effort you have made, and that you must make still greater efforts? Will you not harken to this little maid of France and help her? Will you not arouse your people to come to the aid of her people? I believe you will. (Loud applause.)

THE PATRIOTIC MEETING

AUDITORIUM THEATER, THURSDAY EVENING, JUNE 13

The patriotic meeting of the Association was held, June 13, at 8:30 p. m. Several patriotic musical selections were rendered by the Great Lakes Naval Training Station Band. Bob Dyrenforth sang patriotic songs, with the audience joining in the chorus.

Dr. Ludvig Hektoen, in calling the meeting to order, said: You are the guests of the Chicago Medical Society, the local branch of the American Medical Association, and it is as chairman of the Committee on Arrangements that I bid you welcome.

In former years it was customary at the annual meeting of the American Medical Association to hold a President's reception on Thursday evening. Since we entered the war it has seemed better to replace this nonessential function with a patriotic meeting as befitting the spirit of the times. Tonight there will be presented to you other subjects of the greatest importance in relation to the war.

Science and the War

Prof. John M. Coulter, University of Chicago, was introduced as the first speaker of the evening, and spoke on "Science and the War." He said in part:

In presenting such a subject as science and the war, one must choose between a somewhat detailed account of the services rendered by the different sciences and a very general statement which omits details. A few samples of the emergency problems that have come to the National Research Council, however, may give a better conception of the range of such work. All sciences are contributing to the prosecution of this war. Some of them entered into it in a more spectacular way than others, but all of them in a real way. The great profession represented in this meeting is a conspicuous illustration of service so obvious and immediate that it is perhaps better appreciated by the public than are the other fields of scientific service.

Among the emergency problems referred to for fields of scientific investigation may be mentioned a few samples. To physics has come such problems as the detection of submarines, adequate range finders, and improvement in wireless apparatus. Chemistry is dealing with the absorption of noxious gases, synthetic drugs, new specifics, the preparation of special military maps, indexes of military zones, interpretations of topographical maps, and so on. Geology is interesting itself in the description of camp zones, in the recognition of adequate water supplies, in the materials for right building, and in sources of necessary materials. My own work on the National Research Council has had to do with problems relating to plants and the uses to which plants are put through raw products of all kinds. We are discovering what we have of the newer stock in hand, which is far greater than we imagine. The most pressing plant problem is that connected with food production because everything else depends on it. For years our rate of increase in food production had been falling rapidly behind the rate of increase in population. Such a disparity between the two rates of increase could not be allowed to continue if there was no war; but when the war came, as you know, the problem became tremendously more acute. It was discovered that the chief reason for this lack of food production behind the population was a lack of cooperation, that is, a failure to apply the knowledge already available in reference to the most effective methods of handling plants. Isolated investigators in various parts of the world solved important problems, but the results were never brought together and focused on our great need. It has been discovered that the knowledge now available, if applied to the result in food production, would overtake the population if there had been such scientific cooperation in the years that have gone as exists today, and we would not have heard of wheatless days. All of these restrictions of our food administration are simply to help us bridge over this transition. Cooperation is the only method not only to render effective service but also to secure scientific results. Science in this war represents training that is of immense service in meeting emergencies. It has not restricted itself to superficial progress, but has been dealing with fundamentals, and its range of application is wide, and it offers this training because more than anything else it is patriotic, not in the Prussian sense but in the sense of international cooperation and service. (Applause.)

The Law and the War

Judge Charles S. Cutting spoke on this subject. He said in part:

We lawyers are taught to believe in the sacredness of contracts, and all of us Americans ought to be thoroughly imbued with the idea that a solemn compact, whether it be between men or between nations, is something which is made to be kept and not to be violated at will. Military necessity, like any other necessity by one of the parties to an obligation, is an exceedingly convenient way to violate absolutely a solemn agreement. Who is the judge as to military necessity? The power that invokes it and it alone. This throws to the winds all idea of fairness, of justice, of right, of law. Law is the cement which binds together civilization, and without it we relapse into savagery, and savagery is followed by the desecration of the law.

When our great Army shall have come home, let us hope that it shall have on its face, "This world is now safe for democracy, and a world fit to live in. It is of the people, for the people and by the people"; and when that day arrives, I am sure there will go up such a shout of joy from San Francisco to Boston, and from the Lakes to the Gulf that the world will know that the great power that exists for right, for law, for constitutional liberty has spoken, and that the die is forever cast. (Applause.)

President Bevan said:

This is one of the largest and most successful meetings the American Medical Association has ever held. I want to call your attention in a few words to the flag that hangs in the back of this hall, the service flag, with 23,146 stars. This is the service flag of the American Medical Association and represents the number of physicians who have gone into the service.

American Ideals

Bishop Charles P. Anderson spoke on this subject. He said in part:

Whether we be doctors or priests, lawyers or professors, farmers or artisans, soldiers or civilians, rich or poor, or whether we have decorations in front of our names or after our names or not, we are primarily men—men who have been made in the image of God and men who will be measured not by their titles or decorations or positions, but by their moral bulk and their constructive energy for the betterment of the human race. The danger in a professional life is that we are apt to become stilted and mechanical and lose the dignity of the man in the routine of a profession. No profession ever became a great profession until it had produced a great man, and no great man ever lived apart from great ideals. It is about ideals that I shall speak to you tonight, especially as they are represented in American life and thought and action.

We have witnessed during the last year the expansion of a great moral conviction among the American people. The rank and file of our citizenship is not familiar with the intricacies of international law. We are certainly not familiar with European bunglers. Candidly, we are not much interested in these aspects of the case; but we have certain old-fashioned ideas of right and wrong. Our people have been asking themselves for a year, Is it right or is it wrong to do certain things? Is it right or is it wrong to break your word, to violate a treaty? Is it right or is it wrong for the strong to oppress the weak? Is it right or is it wrong to bring about wholesale murder of human beings for any military purpose whatever? Is it right or is it wrong to instigate barbarous practices that shock the individual conscience, even of the savage? And the American conscience is answering these questions in this way: Those things are wrong and they will have to be set right. We have ideals, and we have faith in our ideals. We are ready to make sacrifices for our ideals, and if the submarine does come close to our shores and threatens, or if the drive over there in France should seem to penetrate through that line, and if that should be followed by propositions of an ignoble peace, we will answer back as did John Paul Jones when he was sorely smitten and threatened of being overcome, "Oh, thou enemy, we have not begun to fight yet." (Applause.)

THE HOUSE OF DELEGATES

Third Meeting—Thursday Morning, June 13

The House of Delegates, in accordance with the action taken at the meeting held on Tuesday afternoon, met at 8 a. m. and was called to order by the speaker.

Dr. D. Chester Brown, Connecticut, chairman, presented supplementary reports of the Committee, on Credentials, stating that ten additional delegates had registered and were entitled to seats in the House of Delegates, and recommended that they be seated.

Dr. V. G. Vecki, California, moved that the report be adopted. Seconded and carried.

The secretary called the roll and recorded 117 delegates present.

The minutes of the previous meeting were read and approved.

Election of Officers

The next order of business being the election of officers, the House proceeded to an election, which resulted as follows:

President - Elect — ALEXANDER LAMBERT, New York.

First Vice President —WILLIAM N. WISHARD, Indianapolis.

Second Vice President—E. STARR JUDD, Rochester, Minn.

Third Vice President —C. W. RICHARDSON, Washington, D. C.

Fourth Vice President—JOHN M. BALDY, Philadelphia.

Secretary — ALEXANDER R. CRAIG, Chicago.

Treasurer—WILLIAM ALLEN PUSEY, Chicago.

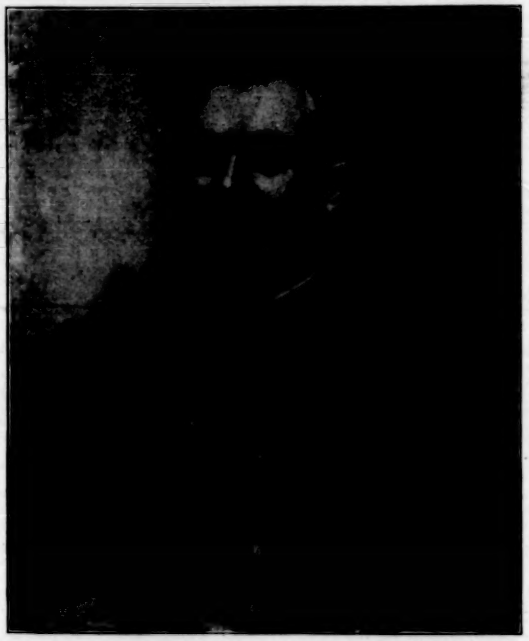
Speaker of the House of Delegates—HUBERT WORK, Pueblo, Colo.

Vice Speaker of the House of Delegates—DWIGHT H. MURRAY, Syracuse, N. Y.

Members of the Board of Trustees—FRANK BILLINGS, Chicago; WENDELL C. PHILLIPS, New York; THOMAS MCDAVITT, St. Paul; and, to fill vacancy caused by the death of E. J. McKnight, for a term expiring in 1919, D. CHESTER BROWN, Danbury, Conn.

Members of the Judicial Council, for a term of five years—W. S. THAYER, Baltimore; to fill the vacancy occasioned by the election of Alexander Lambert, New York, as President-Elect of the Association, whose term would have expired in 1919, M. L. HARRIS, Chicago.

Members of the Council on Health and Public Instruction —For the term of five years, to succeed himself, W. S. RANKIN, Raleigh, N. C.; to fill the vacancy occasioned by the election of Frank Billings, Chicago, as a member of the Board of Trustees, whose term would have expired in 1921, LUDVIG HEKTOEN, Chicago.



MAJOR ALEXANDER LAMBERT, M. R. C., U. S. ARMY
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

Member of the Council on Medical Education—For the term of five years, to succeed himself, HORACE D. ARNOLD, Boston.

Member of the Council on Scientific Assembly—For the term of five years, to succeed himself, ROGER S. MORRIS, Cincinnati.

The secretary presented a list of applicants for associate fellowship endorsed by the Section on Stomatology, and stated that this is the only list which has so far been transmitted to him from any of the sections.

Dr. E. Eliot Harris, New York, moved that the secretary be authorized to cast a ballot for the House of Delegates in each instance, not only of those applicants endorsed by the Section on Stomatology, but also for those applicants who may be endorsed by the other sections of the Scientific Assembly in which the applicant is not eligible for membership in the state association of the state in which he resides, and provided no objection to the applicant is filed by the officers of such state association. Seconded and carried.

Place of Annual Session

Dr. Thomas McDavitt, Minnesota, chairman, stated that there had been presented to the Board of Trustees from its Committee on Place of Annual Session two cities which are adjudged to be suitable for the accommodation of the annual session of the Association. The Board of Trustees transmits to the House of Delegates these two places without recommendation. Since the last meeting of the Board of Trustees, a third such city has been suggested and is included in the list presented, in order that it, too, may be considered by the House of Delegates. These three places suggested for the next Annual Session are Atlantic City, N. J.; Hot Springs, Ark., and Philadelphia.

Dr. Wilmer Krusen, Pennsylvania, withdrew Philadelphia from the list of places to be considered.

The advantages of both Atlantic City and Hot Springs were presented in a discussion, which was taken part in by Drs. W. T. Wootton, Arkansas; Wilmer Krusen, Pennsylvania; E. Eliot Harris, New York; H. G. Wetherill, Colorado; G. F. Cott, New York; C. P. Meriwether, Arkansas; F. D. Boyd, Texas; Otto P. Geier, Ohio, and Dwight H. Murray, New York.

A ballot was then taken, which resulted in the choice of Atlantic City, N. J., as the place for the next annual session of the Association.

Dr. George H. Kress, California, moved that the time for holding the next annual session be referred to the Board of Trustees with power to act.

Seconded and carried.

During the progress of the election, Dr. E. J. Goodwin, Missouri, moved that when the House adjourns, it adjourn with the members standing for a few moments in silence, with heads bowed, in respect to the memory of Dr. E. J. McKnight, a trustee, and to those members of the Association who have lost their lives in the service of our country.

Seconded and carried.

Supplementary Report of the Reference Committee on Legislation and Political Action

Dr. M. L. Graves, Texas, chairman, presented a supplementary report for the Reference Committee on Legislation and Political Action, as follows:

The report of the War Committee has been duly considered and we feel that commendation is due the officers of the American Medical Association for their prompt recognition of the opportunity for service to our country during this war and their loyal tender of this service to the officers of the government as well as for the good work accomplished, which has been graciously acknowledged by the Surgeon-General. We feel that the House should further assure the government that all its officers and organization will cooperate fully with and serve the government whenever desired.

The following resolution was presented by Dr. V. G. Vecki, California, and was referred to your Reference Committee on Legislation and Political Action.

Resolved, By the House of Delegates of the American Medical Association, at its annual session at Chicago, 1918, that in consideration of the impending emergency and in consideration of the indisputable fact that all interests are secondary to the winning of the war and the relief of the wounded soldiers, so splendidly fighting for our country, action be taken provisorily to establish an undergraduate class of medical men, who would have no claim to be licensed to practice medicine after the war without proper additional education as provided by present regulations.

Your Reference Committee believes it unwise to offer any inducement to undergraduates in medicine to abandon their studies, but on the contrary would urge all students to complete their medical courses and thus become qualified to render a far more efficient service to their country.

The committee therefore recommends that this resolution be not approved.

In addition, the following resolution from the Section on Stomatology was transmitted to the Reference Committee on Legislation and Political Action.

WHEREAS, It is highly probable that all hospitals and dispensaries may in the near future be called on to receive, treat and care for disabled American soldiers, it is recommended by the House of Delegates of the American Medical Association in session at Chicago, 1918, that all physicians of German and Austrian citizenship (including those having only their first naturalization papers of American citizenship) should be dropped from those hospitals receiving soldiers during the period of the war.

Your committee feels that the suggested action may be safely left to the judgment of the governing bodies of the hospitals themselves.

Dr. Eliot Harris, New York, moved the adoption of the report. Seconded.

After discussion by Drs. V. G. Vecki, California; E. Eliot Harris, New York, and G. F. Cott, New York, the motion to adopt was put and carried.

Supplementary Report of Reference Committee on Hygiene and Public Health

Dr. J. W. Schereschewsky, U. S. P. H. S., chairman, presented a report from the Reference Committee on Hygiene and Public Health.

The first section of this report was read and a motion to adopt was made and seconded. This motion was discussed by Dr. Otto P. Geier, delegate from the Section on Preventive Medicine and Public Health, who moved an amendment which was accepted, when the motion as amended was put and carried. The section of the report as amended and adopted is as follows:

In accordance with the directions given to the Reference Committee on Hygiene and Public Health, at the last meeting of the House of Delegates, your committee submits the following resolution concerning animal experimentation and recommends that it be adopted by the House of Delegates.

WHEREAS, The usefulness and, indeed, the imperative need of animal experimentation has been fully established by the improvements in sanitation resulting in the striking difference in the health of troops in this as contrasted with former wars; in the practical abolition of the dreadful wound-tetanus; and in the vast improvements in the results of wound treatment; and

WHEREAS, Further animal experimentation is absolutely necessary for the conduct of the war for the further protection of the gallant soldiers who are risking life, limb and health for our safety; and

WHEREAS, Animal experimentation is absolutely necessary for meeting effectively the practice of the enemy in using poison gases; therefore be it

Resolved, That the House of Delegates of the American Medical Association in convention assembled at Chicago, Illinois, hereby reaffirms its belief that properly regulated animal experimentation is necessary for the sake of the public health; that the necessity for such animal experimentation is greater and more urgent at this time than ever; and that those who interfere with it in any way, thereby interfere with the conduct of the war and fail in the gratitude owing to our defenders.

The Reference Committee on Hygiene and Public Health reports further that it has had referred to it the following resolution which was adopted by the Section on Diseases of Children:

Resolved, That the War Council of the American Red Cross be asked to appropriate $100,000 for the purpose of better child welfare work, assisting existing organizations working in child welfare, and organizing this work when approved by the Medical Advisory Committee of the American Red Cross. This sum to be expended under the direction of the said committee.

Your committee recommends that this resolution be adopted.

Respectfully submitted by order of Reference Committee on Hygiene and Public Health.

J. W. SCHERESCHEWSKY, Chairman.

It was moved that this recommendation of the committee be concurred in.

Seconded and carried.

It was then moved and seconded that the report of the Reference Committee on Hygiene and Public Health be adopted as a whole. Carried.

Supplementary Report of the Reference Committee on Constitution

Dr. Floyd M. Crandall, New York, chairman, presented the following supplementary report for the Reference Committee on Amendments to the Constitution and By-Laws and moved the adoption of the report. Seconded and carried. The report follows:

A communication presented to the House of Delegates on Tuesday, June 11, by Dr. W. T. Wootton of Arkansas, relative to the standardizing of surgical procedure and medical practice, was referred to this committee for action. While the communication proposed the appointment of a standing committee and hence a change in the By-Laws, it dealt with other matters foreign to the work of this committee, and it recommends that it be referred to the Judicial Council.

Respectfully submitted by order of the Reference Committee.

FLOYD M. CRANDALL, Chairman.

Report of Reference Committee on Sections and Section Work

Dr. John D. McLean, Pennsylvania, chairman, presented the following report of the Reference Committee on Sections and Section Work:

The members of the Reference Committee on Sections and Section Work have very carefully studied the report of the Council on Scientific Assembly and have found a diversity of statements in the report. They find no record of any definite recommendations, but have been much impressed with the statement, "We are accused, and the Council on Scientific Assembly believes this is a just criticism, of devoting too much time to scientific work and too little to social enjoyment and getting acquainted with each other."

We find on referring to the program of the Scientific Assembly and to the meeting of the House of Delegates that there are nineteen separate and distinct sections of our association meeting during five days, as follows: House of Delegates, general meetings, scientific exhibits, and sixteen scien-

tific sections. We therefore appreciate the significance of this statement that much time is devoted to scientific work, leaving very little for pleasure and getting acquainted.

We also find that a resolution has been handed to us requesting consideration of the creation of a new section on industrial physicians and surgeons, making additional scientific work. There would then be twenty distinct parts of the association meeting during the five days. We find also, on referring to the program, that there are 562 speakers listed to address the physicians in attendance. This does not include meetings of the House of Delegates or meetings on Wednesday and Thursday evenings.

As a result of all this, we find it impossible to make any definite recommendation to become operative at the next session, and as this involves every member of the Association in attendance, we would recommend that this House of Delegates direct the Council on Scientific Assembly to carefully study this problem and form a definite plan of procedure for future meetings. We would also recommend that the committee be directed to forward the suggested plan of procedure to each member of the House of Delegates, for the next session, at least two weeks prior to the first day of the meeting of the House, and that the report of the Council be submitted to the House of Delegates at the next session for definite action.

The following resolutions have also received consideration:

Whereas, Industrial medicine and surgery is rapidly becoming an important special field of medicine, and

Whereas, The American Association of Industrial Physicians and Surgeons of over 500 members has been in existence for three years, and

Whereas, The industrial physicians and surgeons form a group of the profession making a large contribution both to medicine and to the conservation of man power; now be it

Resolved, That the American Medical Association recognize these facts and give their designation of Industrial Physicians and Surgeons to those properly qualifying for this title, and that they be so designated in the Directory of the American Medical Association; and be it further

Resolved, That the Committee on Sections consider the advisability of inviting the American Association of Industrial Physicians and Surgeons to become a section of the American Medical Association.

Your Reference Committee would recommend that the first resolution be referred to the Board of Trustees with favorable recommendation, and that the second resolution be referred to the Council on Scientific Assembly for consideration in the proposed plan of procedure to be submitted to the House of Delegates at the next session.

John D. McLean, Thomas Holloway,
Guy L. Connor, G. A. Moleen.
Frederick T. Rogers,

It was moved that the report be adopted.

Seconded and carried.

Supplementary Report of the Reference Committee on Reports of Officers

Dr. H. G. Wetherill, Colorado, chairman, presented the following supplementary report for the Reference Committee on Reports of Officers:

As regards the report of the Judicial Council, your Reference Committee agrees that it is inadvisable for the medical profession to depart from its traditional principle, namely, that physicians should not derive pecuniary profit from patents on articles for the relief of the sick. This principle is endorsed and reaffirmed, chiefly because it represents the highest ideals of our profession; but it may be noted also that it is one of the foundations of the confidence of the public in the profession, and one of the chief reasons why funds have been given liberally for medical research. Every discovery of the future utilizes the results of these past gifts, and therefore has obligations toward them.

The case is not quite as clear when profits derived from such patents are to be used for the benefit of the public, and not for private gain. This is permitted by the rule of 1916, under which we are now working; and whether this rule is wise or unwise, it could not fairly be revoked in reference to the present case, since this would constitute retroactive legislation.

It must also be pointed out that the Association has no jurisdiction over the University of Minnesota, and therefore the question of what this university should do or should not do does not seem to be a subject for action by this body.

Under the circumstances, it appears that this body may reply to the request of the University of Minnesota by informing it of its own general policy, as above expressed, and leave the adoption and application of these principles to the university.

Finally, it is to be clearly understood that no member of the medical profession is to derive pecuniary profit from the patent; and that the Reference Committee assumes, without hesitation, that the offer of the Mayo brothers was made in a spirit of altruism.

We therefore recommend that the present status be maintained, under the resolution adopted by the House of Delegates at the Detroit session in 1916, and that a copy of this report and of the report of the Judicial Council be forwarded to the president of the University of Minnesota and to Drs. William J. and Charles H. Mayo.

H. G. Wetherill, Torald Sollmann,
F. E. Murphy, H. B. Gibby.
S. R. Roberts,

At the conclusion of the report, Dr. Wetherill moved its adoption.

Seconded and carried.

Report of Committee on Reapportionment

Dr. Edward B. Heckel, Pennsylvania, chairman, presented the following report of the Committee on Reapportionment:

Your Committee on Reapportionment of Delegates presents the following report, in accordance with Article 5, Section 2, of the Constitution, which provides that "the total voting membership of the House of Delegates shall not exceed 150. The Medical Departments of the Army, of the Navy, and the United States Public Health Service, and the Scientific Sections shall each be entitled to one delegate." This leaves 132 to be apportioned to the constituent associations in proportion to their actual membership, which entitled each 800 members or fraction thereof to one delegate. This makes the voting membership of the House of Delegates 145, and according to the Constitution and By-Laws the apportionment will prevail for three years. The number of delegates to which each state is entitled, in accordance with this ratio, is as shown in the accompanying table (see page 1943).

Respectfully submitted.

Edward B. Heckel, Arthur D. Bevan, President,
Philip S. Roy, Alexander R. Craig, Secretary.
John Ridlon,

At the conclusion of the report, Dr. Heckel moved that it be adopted, with the proviso that the secretary be authorized to correct any errors in it.

Seconded and carried.

Dr. J. W. Schereschewsky, U. S. P. H. S., chairman, presented the following resolution, which is transmitted from the Section on Preventive Medicine and Public Health, and referred to the Reference Committee on Hygiene and Public Health:

Whereas, The health of the nation is a measure of its effectiveness both in peace and in war; and

Whereas, The military army of today was the civilian army of yesterday; and

Whereas, The necessity for protecting the public health was never more urgent; therefore be it

Resolved, By the House of Delegates of the American Medical Association, that the three Surgeon-Generals of the Army, the Navy and the U. S. Public Health Service, be memorialized as to the necessity for devising means for protecting the integrity of the health organizations of the several states.

Your committee approves this resolution and recommends its adoption by the House of Delegates.

Respectfully submitted by order of the Reference Committee.

J. W. Schereschewsky, Chairman.

A motion to adopt the report was made and seconded.

After discussion by Dr. John D. McClean, Pennsylvania; Dr. J. W. Schereschewsky, U. S. P. H. S.; Dr. S. W. Welch, Alabama, and Dr. Wilmer Krusen, Pennsylvania, it was moved that the resolution be laid on the table.

Seconded and carried.

Dr. Otto P. Geier, delegate from the Section on Preventive Medicine and Public Health, moved that the resolution

APPORTIONMENT OF DELEGATES

STATE	Membership of State Association, State Secretary's Report, April 1, 1918	Apportionment: Present	Apportionment Based on One Delegate to Every 400 and Fraction	Increase	Decrease
Alabama	1,750	3	3	..	..
Arizona	170	1	1	..	..
Arkansas	1,044	2	2	..	..
California	2,255	4	3	..	1
Colorado	873	2	2	..	..
Connecticut	1,017	2	2	..	..
Delaware	113	1	1	..	..
District of Columbia	558	1	1	..	..
Florida	560	1	1	..	..
Georgia	1,415	3	2	..	1
Idaho	132	1	1	..	..
Illinois	6,218	9	8	..	1
Indiana	2,055	4	3	..	1
Iowa	1,691	3	3	..	..
Kansas	1,003	2	3	1	..
Kentucky	2,201	4	3	..	1
Louisiana	813	1	2	1	..
Maine	744	1	1	..	..
Maryland	1,014	2	2	..	..
Massachusetts	5,005	5	5	..	..
Michigan	2,734	4	4	..	..
Minnesota	1,352	2	2	..	..
Mississippi	400	2	1	..	1
Missouri	3,215	5	5	..	..
Montana	220	1	1	..	..
Nebraska	917	2	2	..	..
Nevada	88	1	1	..	..
New Hampshire	300	1	1	..	..
New Jersey	1,714	3	3	..	..
New Mexico	210	1	1	..	..
New York	8,468	11	11	..	..
North Carolina	1,200	2	2	..	..
North Dakota	430	1	1	..	..
Ohio	4,153	5	6	1	..
Oklahoma	1,466	2	2	..	..
Oregon	800	1	1	..	..
Pennsylvania	6,672	9	9	..	..
Rhode Island	427	1	1	..	..
South Carolina	735	1	1	..	..
South Dakota	373	1	1	..	..
Tennessee	1,102	2	2	..	..
Texas	3,601	5	5	..	..
Utah	267	1	1	..	..
Vermont	254	1	1	..	..
Virginia	1,812	3	3	..	..
Washington	953	2	2	..	..
West Virginia	925	2	2	..	..
Wisconsin	1,885	3	3	..	..
Wyoming	90	1	1	..	..
Hawaii	79	1	1	..	..
Isthmian Canal Zone	97	1	1	..	..
Philippine Islands	114	1	1	..	..
Porto Rico	112	1	1	..	..
Government Services	.....	3	3	..	..
Sections	.....	15	15	..	..
Total	.....	150	147	..	..

presented by the Reference Committee on Hygiene and Public Health, just tabled, be taken off the table.

Seconded and carried.

The resolution was again discussed by Drs. S. W. Welch, Otto P. Geier and John D. McClean, when Dr. Geier moved to amend the resolution by adding to the second part of it the words "maintaining the efficiency and financial support," so that the resolution as amended would read as follows:

Resolved, By the House of Delegates of the American Medical Association, that the three Surgeon-Generals of the Army, the Navy and the United States Public Health Service be memorialized as to the necessity for devising means for protecting the integrity and maintaining the efficiency and financial support of the health organizations of the several states.

Seconded.

After further discussion by Drs. John D. McClean, Pennsylvania, and Dr. Otto P. Geier, the original motion as amended was put and carried.

Dr. E. H. Cary, Texas, moved that a vote of thanks be extended to the resident members and officers of the American Medical Association, and particularly to the Chicago Medical Society, for their hospitality and entertainment of the members of the House of Delegates. Further, that the thanks of the House of Delegates be extended to the ladies of Chicago and citizens for helping to make this meeting so pleasant and enjoyable. Seconded and carried.

Dr. E. Elliot Harris, New York: We all feel a great debt to the Speaker of the House of Delegates for the able manner in which he has conducted the deliberations of this House, and, therefore, I move that a rising vote of thanks be extended to him for his work during this session.

Seconded and unanimously carried.

The members of the House of Delegates, in accordance with the motion made by Dr. Goodwin, then arose and in silence bowed their heads for a few moments in respect to the memory of Dr. E. J. McKnight, late member of the Board of Trustees and of those Fellows and members who have "carried on" in the services of the nation, after which the Speaker declared the House of Delegates adjourned *sine die*.

REGISTRATION AT CHICAGO

The total registration at the Chicago Session was 5,553. Below are given two summaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,880
Surgery, General and Abdominal	1,417
Obstetrics, Gynecology and Abdominal Surgery	345
Ophthalmology	417
Laryngology, Otology and Rhinology	291
Diseases of Children	222
Pharmacology and Therapeutics	30
Pathology and Physiology	76
Stomatology	29
Nervous and Mental Diseases	157
Dermatology	89
Preventive Medicine and Public Health	152
Genito-Urinary Diseases	119
Orthopedic Surgery	103
Gastro-Enterology and Proctology	71
Registrations without specifying any one section	156
Total	5,553

REGISTRATION BY STATES

	Number		Number
Alabama	17	Nevada	3
Arizona	3	New Hampshire	4
Arkansas	40	New Jersey	15
California	83	New Mexico	7
Colorado	62	New York	144
Connecticut	10	North Carolina	8
District of Columbia	36	North Dakota	20
Florida	9	Ohio	333
Georgia	24	Oklahoma	53
Idaho	14	Oregon	12
Illinois	2,265	Pennsylvania	164
Indiana	307	Rhode Island	8
Iowa	369	South Carolina	11
Kansas	125	South Dakota	25
Kentucky	69	Tennessee	60
Louisiana	19	Texas	62
Maine	2	Utah	10
Maryland	26	Vermont	6
Massachusetts	42	Virginia	24
Michigan	245	Washington	17
Minnesota	151	West Virginia	28
Mississippi	10	Wisconsin	307
Missouri	180	Wyoming	15
Montana	19		
Nebraska	90	Total	5,553

AWARDS IN THE SCIENTIFIC EXHIBIT

The Committee on Awards in the Scientific Exhibit made the following awards:

GOLD MEDAL.—The Fort Riley Sanitary Laboratory, Fort Riley, Kan., fifty models of Army sanitary apparatus.

SILVER MEDAL.—Mayo Foundation, Rochester, Minn., exhibit of the work of the Mayo Clinic and Research Laboratory.

SILVER MEDAL.—Dr. David J. Davis, Chicago, investigations of sporotrichosis, including specimens, cultures and pictures.

CERTIFICATES OF MERIT:

United States Department of Agriculture, Bureau of Animal Industry.—Specimens of disease in food animals.

Dr. Henry F. Smyth, Laboratory of Hygiene, University of Pennsylvania.—Industrial dust—charts, photographs and museum specimens.

Dr. Alfred A. Strauss, Chicago.—Stomach and intestinal surgery—operation for sterility in male.

Dr. Leigh F. Watson, Chicago.—Experimental studies of goiter, specimens, photographs and photomicrographs.

Dr. Daniel N. Eisendrath, Chicago.—1. Experimental effects of cholecystectomy. 2. Anatomy of common duct region. 3. Specimens of kidney surgery.

tific sections. We therefore appreciate the significance of this statement that much time is devoted to scientific work, leaving very little for pleasure and getting acquainted.

We also find that a resolution has been handed to us requesting consideration of the creation of a new section on industrial physicians and surgeons, making additional scientific work. There would then be twenty distinct parts of the association meeting during the five days. We find also, on referring to the program, that there are 562 speakers listed to address the physicians in attendance. This does not include meetings of the House of Delegates or meetings on Wednesday and Thursday evenings.

As a result of all this, we find it impossible to make any definite recommendation to become operative at the next session, and as this involves every member of the Association in attendance, we would recommend that this House of Delegates direct the Council on Scientific Assembly to carefully study this problem and form a definite plan of procedure for future meetings. We would also recommend that the committee be directed to forward the suggested plan of procedure to each member of the House of Delegates, for the next session, at least two weeks prior to the first day of the meeting of the House, and that the report of the Council be submitted to the House of Delegates at the next session for definite action.

The following resolutions have also received consideration:

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Whereas, The American Association of Industrial Physicians and Surgeons of over 500 members has been in existence for three years, and

Whereas, The industrial physicians and surgeons form a group of the profession making a large contribution both to medicine and to the conservation of man power; now be it

Resolved, That the American Medical Association recognize these facts and give their designation of Industrial Physicians and Surgeons to those properly qualifying for this title, and that they be so designated in the Directory of the American Medical Association; and be it further

Resolved, That the Committee on Sections consider the advisability of inviting the American Association of Industrial Physicians and Surgeons to become a section of the American Medical Association.

Your Reference Committee would recommend that the first resolution be referred to the Board of Trustees with favorable recommendation, and that the second resolution be referred to the Council on Scientific Assembly for consideration in the proposed plan of procedure to be submitted to the House of Delegates at the next session.

John D. McLean, Thomas Holloway,
Guy L. Connor, G. A. Moleen.
Frederick T. Rogers,

It was moved that the report be adopted.

Seconded and carried.

Supplementary Report of the Reference Committee on Reports of Officers

Dr. H. G. Wetherill, Colorado, chairman, presented the following supplementary report for the Reference Committee on Reports of Officers:

As regards the report of the Judicial Council, your Reference Committee agrees that it is inadvisable for the medical profession to depart from its traditional principle, namely, that physicians should not derive pecuniary profit from patents on articles for the relief of the sick. This principle is endorsed and reaffirmed, chiefly because it represents the highest ideals of our profession; but it may be noted also that it is one of the foundations of the confidence of the public in the profession, and one of the chief reasons why funds have been given liberally for medical research. Every discovery of the future utilizes the results of these past gifts, and therefore has obligations toward them.

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Finally, it is to be clearly understood that no member of the medical profession is to derive pecuniary profit from the patent; and that the Reference Committee assumes, without hesitation, that the offer of the Mayo brothers was made in a spirit of altruism.

We therefore recommend that the present status be maintained, under the resolution adopted by the House of Delegates at the Detroit session in 1916, and that a copy of this report and of the report of the Judicial Council be forwarded to the president of the University of Minnesota and to Drs. William J. and Charles H. Mayo.

H. G. Wetherill, Torald Sollmann,
F. E. Murphy, H. B. Gibby.
S. R. Roberts,

At the conclusion of the report, Dr. Wetherill moved its adoption.

Seconded and carried.

Report of Committee on Reapportionment

Dr. Edward B. Heckel, Pennsylvania, chairman, presented the following report of the Committee on Reapportionment:

Your Committee on Reapportionment of Delegates presents the following report, in accordance with Article 5, Section 2, of the Constitution, which provides that "the total voting membership of the House of Delegates shall not exceed 150. The Medical Departments of the Army, of the Navy, and the United States Public Health Service, and the Scientific Sections shall each be entitled to one delegate." This leaves 132 to be apportioned to the constituent associations in proportion to their actual membership, which entitled each 800 members or fraction thereof to one delegate. This makes the voting membership of the House of Delegates 145, and according to the Constitution and By-Laws the apportionment will prevail for three years. The number of delegates to which each state is entitled, in accordance with this ratio, is as shown in the accompanying table (see page 1943).

Respectfully submitted.

Edward B. Heckel, Arthur D. Bevan, President,
Philip S. Roy, Alexander R. Craig, Secretary.
John Ridlon,

At the conclusion of the report, Dr. Heckel moved that it be adopted, with the proviso that the secretary be authorized to correct any errors in it.

Seconded and carried.

Dr. J. W. Schereschewsky, U. S. P. H. S., chairman, presented the following resolution, which is transmitted from the Section on Preventive Medicine and Public Health, and referred to the Reference Committee on Hygiene and Public Health:

Whereas, The health of the nation is a measure of its effectiveness both in peace and in war; and

Whereas, The military army of today was the civilian army of yesterday; and

Whereas, The necessity for protecting the public health was never more urgent; therefore be it

Resolved, By the House of Delegates of the American Medical Association, that the three Surgeon-Generals of the Army, the Navy and the U. S. Public Health Service, be memorialized as to the necessity for devising means for protecting the integrity of the health organizations of the several states.

Your committee approves this resolution and recommends its adoption by the House of Delegates.

Respectfully submitted by order of the Reference Committee.

J. W. Schereschewsky, Chairman.

A motion to adopt the report was made and seconded.

After discussion by Dr. John D. McClean, Pennsylvania; Dr. J. W. Schereschewsky, U. S. P. H. S.; Dr. S. W. Welch, Alabama, and Dr. Wilmer Krusen, Pennsylvania, it was moved that the resolution be laid on the table.

Seconded and carried.

Dr. Otto P. Geier, delegate from the Section on Preventive Medicine and Public Health, moved that the resolution

APPORTIONMENT OF DELEGATES

STATE	Membership of State Association, State Secretary's Report, April 1, 1918	Present Apportionment	Apportionment Based on One Delegate to Every 200 and Fraction	Increase	Decrease
Alabama	1,750	3	3	..	..
Arizona	170	1	1	..	..
Arkansas	1,044	2	2	..	..
California	2,255	4	3	..	1
Colorado	873	2	2	..	..
Connecticut	1,017	2	2	..	..
Delaware	113	1	1	..	..
District of Columbia	556	1	1	..	..
Florida	560	1	1	..	..
Georgia	1,415	3	2	..	1
Idaho	127	1	1	..	..
Illinois	6,218	9	8	..	1
Indiana	2,055	4	3	..	1
Iowa	1,691	3	3	..	..
Kansas	1,903	2	3	1	..
Kentucky	2,761	4	3	..	1
Louisiana	813	1	2	1	..
Maine	744	1	1	..	..
Maryland	1,014	2	2	..	..
Massachusetts	5,665	5	5	..	..
Michigan	2,734	4	4	..	..
Minnesota	1,352	2	2	..	..
Mississippi	400	2	1	..	1
Missouri	3,215	5	5	..	..
Montana	239	1	1	..	..
Nebraska	917	2	2	..	..
Nevada	88	1	1	..	..
New Hampshire	200	1	1	..	..
New Jersey	1,714	3	3	..	..
New Mexico	210	1	1	..	..
New York	8,468	11	11	..	..
North Carolina	1,300	2	2	..	..
North Dakota	430	1	1	..	..
Ohio	4,153	5	6	1	..
Oklahoma	1,466	2	2	..	..
Oregon	300	1	1	..	..
Pennsylvania	6,872	9	9	..	..
Rhode Island	427	1	1	..	..
South Carolina	735	1	1	..	..
South Dakota	373	1	1	..	..
Tennessee	1,102	2	2	..	..
Texas	3,601	5	5	..	..
Utah	267	1	1	..	..
Vermont	254	1	1	..	..
Virginia	1,812	3	3	..	..
Washington	953	2	2	..	..
West Virginia	935	2	2	..	..
Wisconsin	1,885	3	3	..	..
Wyoming	90	1	1	..	..
Hawaii	79	1	1	..	..
Isthmian Canal Zone	97	1	1	..	..
Philippine Islands	114	1	1	..	..
Porto Rico	112	1	1	..	..
Government Services	.....	3	3	..	..
Sections	.....	15	15	..	..
Total	.....	150	147	..	..

presented by the Reference Committee on Hygiene and Public Health, just tabled, be taken off the table.

Seconded and carried.

The resolution was again discussed by Drs. S. W. Welch, Otto P. Geier and John D. McClean, when Dr. Geier moved to amend the resolution by adding to the second part of it the words "maintaining the efficiency and financial support," so that the resolution as amended would read as follows:

Resolved, By the House of Delegates of the American Medical Association, that the three Surgeon-Generals of the Army, the Navy and the United States Public Health Service be memorialized as to the necessity for devising means for protecting the integrity and maintaining the efficiency and financial support of the health organizations of the several states.

Seconded.

After further discussion by Drs. John D. McClean, Pennsylvania, and Dr. Otto P. Geier, the original motion as amended was put and carried.

Dr. E. H. Cary, Texas, moved that a vote of thanks be extended to the resident members and officers of the American Medical Association, and particularly to the Chicago Medical Society, for their hospitality ana entertainment of the members of the House of Delegates. Further, that the thanks of the House of Delegates be extended to the ladies of Chicago and citizens for helping to make this meeting so pleasant and enjoyable. Seconded and carried.

Dr. E. Elliot Harris, New York: We all feel a great debt to the Speaker of the House of Delegates for the able manner in which he has conducted the deliberations of this House, and, therefore, I move that a rising vote of thanks be extended to him for his work during this session.

Seconded and unanimously carried.

The members of the House of Delegates, in accordance with the motion made by Dr. Goodwin, then arose and in silence bowed their heads for a few moments in respect to the memory of Dr. E. J. McKnight, late member of the Board of Trustees and of those Fellows and members who have "carried on" in the services of the nation, after which the Speaker declared the House of Delegates adjourned *sine die*.

REGISTRATION AT CHICAGO

The total registration at the Chicago Session was 5,553. Below are given two summaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,880
Surgery, General and Abdominal	1,417
Obstetrics, Gynecology and Abdominal Surgery	345
Ophthalmology	417
Laryngology, Otology and Rhinology	291
Diseases of Children	222
Pharmacology and Therapeutics	30
Pathology and Physiology	76
Stomatology	29
Nervous and Mental Diseases	157
Dermatology	89
Preventive Medicine and Public Health	152
Genito-Urinary Diseases	119
Orthopedic Surgery	107
Gastro-Enterology and Proctology	71
Registrations without specifying any one section	156
Total	5,553

REGISTRATION BY STATES

	Number		Number
Alabama	17	Nevada	3
Arizona	3	New Hampshire	4
Arkansas	40	New Jersey	15
California	83	New Mexico	7
Colorado	62	New York	144
Connecticut	10	North Carolina	8
District of Columbia	36	North Dakota	20
Florida	9	Ohio	333
Georgia	24	Oklahoma	53
Idaho	14	Oregon	12
Illinois	2,265	Pennsylvania	164
Indiana	307	Rhode Island	8
Iowa	369	South Carolina	11
Kansas	125	South Dakota	25
Kentucky	69	Tennessee	60
Louisiana	19	Texas	62
Maine	2	Utah	10
Maryland	26	Vermont	6
Massachusetts	42	Virginia	24
Michigan	245	Washington	17
Minnesota	151	West Virginia	28
Mississippi	10	Wisconsin	307
Missouri	180	Wyoming	15
Montana	19		
Nebraska	90	Total	5,553

AWARDS IN THE SCIENTIFIC EXHIBIT

The Committee on Awards in the Scientific Exhibit made the following awards:

GOLD MEDAL.—The Fort Riley Sanitary Laboratory, Fort Riley, Kan., fifty models of Army sanitary apparatus.

SILVER MEDAL.—Mayo Foundation, Rochester, Minn., exhibit of the work of the Mayo Clinic and Research Laboratory.

SILVER MEDAL.—Dr. David J. Davis, Chicago, investigations of sporotrichosis, including specimens, cultures and pictures.

CERTIFICATES OF MERIT:

United States Department of Agriculture, Bureau of Animal Industry.—Specimens of disease in food animals.

Dr. Henry F. Smyth, Laboratory of Hygiene, University of Pennsylvania.—Industrial dust—charts, photographs and museum specimens.

Dr. Alfred A. Strauss, Chicago.—Stomach and intestinal surgery—operation for sterility in male.

Dr. Leigh F. Watson, Chicago.—Experimental studies of goiter, specimens, photographs and photomicrographs.

Dr. Daniel N. Eisendrath, Chicago.—1. Experimental effects of cholecystectomy. 2. Anatomy of common duct region. 3. Specimens of kidney surgery.

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SATURDAY, JUNE 22, 1918

THE FOOD OF THE WORKER IN WAR TIME

In THE JOURNAL[1] last week, some facts were presented regarding the nutrition of the Army and the rationing of this selected group now comprising far more than a million of our population. Every one admits that it is of supreme importance to secure the highest physiologic well-being of these persons, on whom depends, in so large a measure, the success of our cause in the international crisis. Scarcely less desirable, however, is the preservation of adequate working strength and efficiency in the great group of laborers who, in one field or another, are producing the supplies without which armed forces cannot be maintained in action. Ships and munitions are among the indispensable requisites in the prosecution of the war. Those engaged in the manufacture of such requisites represent persons at hard work. Their dietary needs are therefore a matter of national concern.

Ordinarily the problems here raised would seem of minor significance so far as an adequate income will permit the purchase of the essentials for proper living. But with a world shortage in food, with a constant, yet surely justified demand on our own citizens to save food to the point of self-sacrifice, and with restrictions both economic and legal placed on the ready purchase of certain food commodities, it may well be asked whether a danger of impairment of the unorganized forces of our great army of labor is imminent. Here the experience of our allies may be of service to us; so that, as has often been reiterated in the course of the past year or two, we ought to profit by the knowledge of the failures or successes of the nations across the sea.

An unusually valuable report on the composition of dietaries, with special reference to those of munition workers, has just been published by the National Health Insurance Medical Research Committee[2] in Great Britain. The investigation was conducted by Viscount Dunluce and Capt. M. Greenwood of the Welfare and Health Section, Ministry of Munitions. The organization of the committee, which includes Christopher Addison, A. K. Chalmers, W. Bulloch, F. G. Hopkins, G. R. Murray, Sir W. M. Fletcher and Sir William Leishman as its medical and scientific members, is a guarantee of the presumable value of this inquiry. The committee points out that it usually happens in the progress of scientific knowledge that periods of great activity in the collection of new facts alternate with others of discussion and consolidation. The coming of war caught the study of nutrition in a period of the former kind. The sudden and exceptional demand for practical guidance which sprang from war conditions found many gaps in the body of knowledge actually available for practical use in dietetics. When the food shortage became imminent, physiologists were able in some degree to state in quantitative terms the actual energy consumed in this or that kind of productive work. They were not able, however, to estimate at all fully the adaptability of the human machine. Its demands and its possibilities had been laboriously studied under conditions which circumstances had led us to consider as normal; but exactly how far the machine is capable of being adjusted to other and, presumably, less favorable conditions was less well known.

For the purposes of comparison under the established conditions of environment and dietary habits existing in Great Britain, statistics of working-class diets, collected before the war, are available. They show a steady increase of energy intake with increasing income. The ranges are from 3,000 to 4,000 calories on a man-per-day basis; for these dietaries the protein consumption ranged from under 85 to about 115 gm. In general accord with these figures are further data collected with great care by Miss Ferguson[3] and her collaborators on the diets of forty Glasgow families in 1911-1912 and 1915-1916. The outcome is not widely different from the estimations of the United States Department of Agriculture's Division of Home Economics on the dietaries of American farmers, their rating being placed at about 3,500 calories per man per day and including 100 gm. of protein.

The British compilers admit that it is very difficult to draw general conclusions from such averages. Thus the budgets give no information regarding the use of alcoholic drinks, and although these beverages are not primarily drunk because of their food value, they must be allowed to contribute to the calorific properties of a diet containing them. Still, it does not appear that the prewar statistics demonstrate any necessity for the average working man to consume a diet equivalent to more than 3,500 calories.

Turning to war time conditions, we find available an unusually large series of statistics collected during the spring and summer of 1917 in English hostels and

1. The Food of the Army, editorial, THE JOURNAL A. M. A., June 15, 1918, p. 1864.
2. National Health Insurance Medical Research Committee, Special Report Series, 1918, No. 13.
3. Ferguson: Proc. Roy. Soc. Edinburgh, 1917, 37, Part 2, p. 117.

canteens serving the munition workers in various factories. These show the use of 3,463 calories, on the man-per-day basis, as an average of a larger number of dietaries probably than has ever been compiled for a working class population. About 14 per cent. of the calories were furnished by protein, that is, 116 gm. per day. The statistics are, of course, by no means uniform. Only in three hostels out of twenty-two investigated did the energy value of the daily diet sink below 3,000 calories.

As is now well known, there was a season of acute shortage of potatoes in England last year, and coincidently there was an energetic campaign urging the public to "eat less bread." In addition, sugar was very scarce. As a phenomenon of nutrition among the people, it is interesting to learn, from actual dietary statistics, what was the effect of this pronounced tendency to decrease the intake of carbohydrates in the ration. The contrecoup of this economy, as the British report has expressed it, has been a remarkable increase in the consumption of fat and an appreciable rise in that of protein. The need of energy in some form cannot be thwarted. The consumption of fats was almost doubled, while that of the carbohydrates proportionately declined. The British committee is inclined to question the wisdom of such enforced changes. "Physiologically," it states, "we hold that the departure from a normal diet was undesirable because there are reasons why carbohydrates should bear the brunt of the struggle to provide energy for work." Hence it urged a radical modification of the dietaries then current (1917) in the direction of reducing fat and increasing the carbohydrate utilized. Perhaps it is fortunate that in this country, despite the urgent request to "eat no wheat," emphasis has always been placed by the United States Food Administration, thanks to its scientific advisers, on the substitution of other cereals so as to leave the essential make-up of the dietary unchanged.

A RETROSPECT OF THE CHICAGO SESSION

The sixty-ninth annual session of the American Medical Association, held in Chicago last week, was one of the most important the Association has ever held. This statement is made as the meetings, the exhibits, the addresses and the results of the past week pass in retrospect before us. The House of Delegates considered many topics of current war interest and passed a number of resolutions of important, timely character, conspicuous among them being those on animal experimentation, on universal military training, on welfare work among children, on the use of enemy manufactured pharmaceutic products, and on the work of Surgeon-General Gorgas.

The opening meeting of the Scientific Assembly, held in the Auditorium Theater was greeted by an audience of over 4,500 persons, every seat and available space in the theater being occupied. Unfortunately, many who desired to attend were unable to find accommodations because of late arrival. The music for this session was provided by the Fort Riley Band, which was a conspicuous feature of the annual session, and aided in arousing military enthusiasm. At this meeting, as in all of the night meetings, the medical officers in uniform were seated on the stage, and added military tone and color to the picture.

The scientific programs began on Wednesday and contained numerous papers of military interest, as well as those of a strictly scientific character.

An unusual feature of the session was the replacing of the President's reception by a medical war meeting held in Medinah Temple, the report of which appears elsewhere in this issue. The local committee on arrangements had done notable work in staging this meeting. Every seat in the immense auditorium was filled, over 6,000 persons being present. The speakers were the noted foreign guests, the Surgeon-Generals, the president of Leland Stanford University and Major Alexander Lambert of the American National Red Cross. The enthusiasm of the audience cannot be depicted by words, every speaker and patriotic enunciation being greeted with an ovation. With the introduction of each foreign guest the audience, led by a local choral organization and accompanied by the music of an immense pipe organ and the Fort Riley Band, sang a national song.

On Thursday, practically all of the scientific sections combined in two meetings of the greatest importance to the Army, the profession and the public. These meetings were held in the Auditorium and Studebaker theaters, and concerned the reconstruction and rehabilitation of disabled soldiers and the physical examinations made under the selective service. When the meeting in the Auditorium Theater opened, some 4,000 persons listened attentively to the message brought to them by representatives of the Surgeon-General's Office, of the Red Cross and of foreign nations as to the program for the care of the disabled fighting men in order that they may be returned to a useful civilian life. In the meeting on the selective service, Lieut.-Col. J. S. Easby Smith and Major Hubert Work of the Provost Marshal-General's Office were able to confer with the state aides of the governors of the various states who had been ordered to Chicago for this meeting, and to inform the many physicians representing the 23,000 physicians who are engaged in the work of the local, district appeal, and advisory boards under the selective service law, concerning many points which had not up to this time been made clear to them.

The Thursday night session was again a public, patriotic meeting. The Auditorium was again filled to capacity, the music on this occasion being provided by a detachment of the Great Lakes Naval Training Station Band and by group singing of the audience.

The scientific and commercial exhibits, the former being referred to elsewhere, were open throughout the session and were noteworthy for their practical and military features. The commercial exhibit included practically all of the recently developed foods, pharmaceuticals and mechanical devices resulting from necessities created by the advance of scientific knowledge and the military emergency.

Special arrangements were made for entertaining the medical women who attended the session in large numbers and also for the amusement of women guests. The entertainments included receptions, teas, a musicale, and a visit to the Great Lakes Naval Training Station to attend the dedication of the new Red Cross building. Arrangements had also been made for a visit to the central department Red Cross headquarters and to local merchandise and industrial plants.

To add to the entertainment of the visitors to this session, a medical motion picture show was conducted throughout the session, numerous reels of film lent by the Medical Department of the United States Army being continuously exhibited, including the famous film "Fit to Fight," prepared by the commission on training camp activities. Capt. H. M. Strong, post surgeon at Rantoul, Ill., was permitted to visit the annual session in an aeroplane, and arrived promptly on time in Chicago, being greeted by the Fort Riley Band and by many convention visitors.

The meeting also served to inform many physicians who are about to enter the military service concerning the routine of application and appointment, equipment, assignment to duty, etc. Medical military headquarters were in continuous operation, in charge of medical officers on active duty. Over 600 physicians were given information, supplied with application blanks, and many of them sent directly to the local examiner for physical examination.

The attendance at this session was the largest since the Chicago session of 1908. The total, 5,553, is but a meager 800 less than that of the 1908 session, and when one takes into consideration the fact that about 20,000 physicians are in active military service, that the services of many physicians are continuously needed by civilian communities and industrial institutions, and that railroad rates are comparatively higher than they have ever before been in the history of our country, the attendance at this session may well be said to have been phenomenal. No meeting of the Association has so successfully reached the public as did this sixty-ninth annual session, and the public showed its interest in the session and in the work which the medical profession is trying to accomplish, by attending in large numbers every meeting in which arrangements had been made for it. The local committee on arrangements and the medical profession of Chicago are to be congratulated on the results of this session, and the thanks and appreciation of every Fellow of the American Medical Association is due them.

THE EARLY HISTORY OF BACTERIOLOGY IN THE UNITED STATES

Whenever we are charged, as a nation, with being occupied solely with the life of trade, and the designation of Yankee is used to designate preeminently commercial habits, it is refreshing to turn to the history of science for the truth. Of course, in the earlier days of the United States as a national enterprise the conditions were scarcely favorable for the widespread prosecution of those studies for which the European peoples of the civilized world had been prepared by generations and even centuries of experience. America's intellectual life can at best be measured by decades. How has she progressed in some of the more recently recognized intellectual disciplines? The new science of bacteriology, the outcome of the labors of Pasteur, Lister, Koch and others, was born within the memory of many that are still living. The bacillus of tuberculosis was announced in 1882; the vibrio of Asiatic cholera in 1883; the bacilli of lockjaw and of diphtheria in 1884, the same year that marked the better recognition of the typhoid bacillus, which was really discovered in 1879; in 1894 came the discovery of the bacillus of bubonic plague; and along with this period belongs the finding of the micro-organisms of malaria, sleeping sickness, and several other diseases. In the midst of such developments the newer science of parasitology has found a firmer footing and a novel significance.

We are prone to look abroad for all considerations of guidance in these modern fields. Professor Bergey[1] of the University of Pennsylvania has lately pointed out how early were some of the efforts in this country to present the story of the bacteria. First in the list of early teachers he places the late Prof. T. J. Burrill of the University of Illinois, who introduced the study of the bacteria into his course on the fungi during the seventies. He discovered the organism of pear blight in 1879 and, in the following years, conducted extensive inoculation experiments with this organism on a large orchard of young pear trees, thereby definitely establishing the etiologic relation of the organism of the disease. In 1882, Dr. Burrill published a pamphlet entitled "Bacteria," in which he gives a discussion of the morphology, functions, classification and methods of study — the latter being those of the French school. The classification of the bacteria follows that of Ferdinand Cohn. There is also included a brief description of the bacteria that were then identified.

The late Surgeon-General Sternberg, to whose initiative we owe the appointment of the commission that discovered the mode of transmission of yellow fever by mosquitoes, translated Magnin's work on bacteria in 1880 and published his large manual of bacteriology in 1892. In the Bureau of Animal Industry at Washington, D. C., Salmon began to study the relation of

1. Bergey, D. H.: Early Instructors in Bacteriology in the United States, Jour. Bacteriol., 1917, 2, 595.

bacteria to animal diseases as early as 1879; and the discovery of the protozoan organism responsible for Texas cattle fever, a classic research which brought prominence to Prof. Theobald Smith, was probably in a sense an outcome of these early endeavors. Before the nineties of the last century, bacteriology was taught systematically in a number of American educational institutions, the enumeration of which would recall many of the prominent investigators of today. Physicians, particularly those of maturer years, are wont to think of bacteriology solely as a branch of pathology or of medicine. The inspection of our scientific institutions shows how inadequate such an assumption is. As Bergey points out, courses in elementary bacteriology are now being given not only to general science students, but also to students in domestic science, agriculture, dairying, water and sewage purification, public hygiene and sanitation, medicine, dentistry, veterinary medicine, pharmacy, the brewing and fermentation industries, food production and preservation, and plant pathology.

THE PATHOLOGY OF "MUSTARD GAS"

Modern gas warfare dates from April, 1915, when the Germans first liberated the abominable cloud of gaseous chlorin on unsuspecting allied forces at the western front. Since then this heinous mode of attack has experienced numerous variations, which have been discussed in THE JOURNAL.[1] Meanwhile, methods of defense and protection have also been devised, one succeeding another as rapidly as inefficacy or inferiority was discovered. The respirator has become part of the outfit of the modern soldier in the trenches.

"The use of a gas shell to force a man to put on his mask," says Major Auld, the gas expert of the British Military Mission, in speaking of tear gas shells, "is practically neutralization. If at the same time you can hurt him, so much the better. Hence the change in gas-shell tactics, which consists in replacing the purely lacrimatory substance by one that is also poisonous." Accordingly the Germans developed a plan of gas warfare that not only harasses the enemy but also seriously injures him. Scarcely a year has elapsed since the so-called mustard gas, dichlorethylsulphid, was added to the fighting armamentarium in this capacity. The substance was first made in 1886 by a German chemist, Victor Meyer, who soon recognized its harmful character.

Subsequently the poisonous nature of this compound seems to have attracted little attention in the scientific world until it became one of the weapons of an army. Consequently the knowledge of its toxicology and the pathology of its manifestations has been limited. It should be recalled that the "mustard gas" is in reality a heavy oily fluid sinking below water and not miscible with it, of neutral reaction, having a faint, sweetish, ethereal odor only slightly suggestive of the sulphur compounds, and with a boiling point of 217 C. It thus has properties whereby it can be distributed in the form of a spray on impact of a shell.

From such reports as have been distributed, it appears that the conspicuous symptoms are conjunctivitis, laryngitis, bronchitis and skin burns, all due to the excoriating effect of the substance. The possibility of such complications as pulmonary edema and bronchopneumonia is apparent. Peculiar is the fact that the recognition of the symptoms is usually delayed for a considerable period, sometimes as long as sixteen hours. We are indebted to Warthin and Weller[2] of the Department of Pathology at the University of Michigan for an illuminating study of the skin lesions produced by dichlorethylsulphid. These show that it is an escharotic, specific in its action on the epidermis and tissues of the corium, particularly on the endothelium of the vessels. The lesion is a chemical burn unlike that produced by heat, electricity or the ordinary corrosives, such as sulphuric, nitric and hydrochloric acids, or strong alkalis. Of all these agents, the effects are most closely allied to those of hydrochloric acid, but are much greater in intensity. It differs from a heat burn in the absence of thrombosis, in the greater degree of fluid exudation, in the greater moistness of the affected area, and in the fact that the necrosis as shown by the loss of nuclei requires hours, or even days, for its complete development. The coagulated, shrunken and cooked appearance of the tissues in heat burns is not apparent in the tissues of mustard gas burns. The vessels in the affected area are severely damaged and collapsed, and there is a local anemia in the earlier stages, with a marked fluid exudation and leukocyte migration. The process is nonhemorrhagic and nonthrombosing. In man the necrosis of the epidermis is usually evident in two hours through the hydropic change in the epithelium and early vesicle formation. There is no deep edema. It is confined to the epidermis and to the papillary layer in the early stages.

Numerous observers have pointed out the slow and insidious development of the real damage done by the substance. Warthin and Weller state that the deep penetration of the smallest quantities applied to the surface is a most striking feature. There is an undoubted entrance through the hair follicles and the sebaceous and sweat glands. The slowly progressive character of the necrosis is a specific characteristic, the height of the necrosis being reached from five to ten days after application. This may in part be explained by contraction and death of the vessels, with resulting anemia in the affected area. The painlessness of the lesion is also a marked characteristic.

1. The Effects of Inhalation of Chlorin Gas, editorial, THE JOURNAL A. M. A., Nov. 27, 1915, p. 1921; Gases in Modern Warfare, April 20, 1918, p. 1160.

2. Warthin, A. S., and Weller, C. V.: The Pathology of the Skin Lesions Produced by Mustard Gas (Dichlorethylsulphide), Jour. Lab. and Clin. Med. 1918, **3**, 447.

This may be explained by the edema and degeneration of the nerve endings in the affected portion. The lesions recall a roentgen-ray burn of the skin in that healing is slow, owing probably to the injury of the blood vessels.

Current Comment

THE SCIENTIFIC EXHIBIT

The constant throng of interested visitors to the scientific exhibit throughout the annual session last week bore testimony to its value. The exhibit which attracted most interest was that from the Fort Riley Sanitary Laboratory, consisting of more than fifty models of apparatus constructed in the laboratory. Among these were seven original models designed by Major C. S. Williamson, M. R. C., director of the laboratory. His multiple shelf incinerator is inexpensive to build, simple to operate, and after the initial charge of fuel (a very small quantity) will burn garbage or garbage and feces indefinitely with no further fuel whatever. This exhibit served to emphasize the value of a research laboratory devoted to the sanitary problems of the Army and Navy, and many visitors expressed the hope that such a laboratory with proper equipment would be made a permanent institution in the government service. Other exhibits dealt with sanitary problems in civil life, such as the beautiful charts on malaria by the Prudential Insurance Company of America and the striking exhibit of industrial dust from the Laboratory of Hygiene of the University of Pennsylvania. These served to emphasize the fact that sanitary problems are attracting much attention, and that research work in these lines is yielding valuable information which can be put to practical use with great advantage. Exhibits showing interesting points in surgical technic by Drs. D. N. Eisendrath, Victor D. Lespinasse and Alfred A. Strauss were interesting and stimulating, while those bearing on problems associated with infectious diseases and immunity by Drs. Hideyo Noguchi, E. C. Rosenow and the Mayo Foundation, and Drs. D. J. Davis, Josiah Moore, Leigh Watson and others were of high grade. Admiration was expressed for the magnificent specimens of animal pathology as related to man, prepared by Dr. L. Enos Day of the U. S. Bureau of Animal Industry. The fine collection of historic medical books, letters and similar material exhibited by Dr. Mortimer Frank was a source of pleasure to a great many. The exhibits of the Propaganda Department and of the Chemical Laboratory of the American Medical Association afforded an insight into the practical and expansive work conducted through these activities. Of special interest at this time were the moving pictures showing the methods of graphic instruction used in camps and naval stations. One of the new U. S. motor ambulances was examined with much interest. The success of the exhibit seemed to suggest the direction to be taken by subsequent displays. The absence of extensive collections of pathologic specimens, and the prominence of sanitary subjects was striking. If the scientific exhibit is to be of real educational value it must consist of things graphically emphasizing facts that have a direct interest to those who see them, and it must not consist too largely of technical subjects which interest only a few individuals. Few exhibits attract the attention they deserve or exert their full educational value unless a competent demonstrator is constantly present, and visitors are always especially interested in meeting the person whose work is shown.

ANOTHER CHALLENGE TO THE ANTIVIVISECTIONISTS

The death rate in swine from all diseases for the year ending March, 1918, announced by the United States Department of Agriculture as 42.1 per 1,000, is the lowest in thirty-five years, according to the records kept during that period. The reduction in mortality, in the light of the statistics just published,[1] for previous years shows a sparing of 4,000,000 hogs, equivalent to the consumption of pork and pork products by the entire population of the United States for 1917 for nearly half a month. The marked reduction in the losses of swine for 1918 over preceding periods, in view of the fact that 90 per cent. of these losses are due to hog cholera, indicates clearly the benefit from the combined efforts of state and federal agencies in protecting the farmers against the ravages of this exceedingly fatal disease. Inasmuch as the antivivisectionists are continually decrying the use of protective serums and vaccines with the assertion that they are useless and inhuman, we wonder what new figment of their imagination will be presented to explain away the results so beneficent to our animal neighbors. Or shall we be told bluntly that the government figures are a lie? Perhaps the antivivisectionist loves his pork too well to deny them.

THE PRESIDENT-ELECT, MAJOR ALEXANDER LAMBERT

The president-elect of the American Medical Association, Major Alexander Lambert, M. R. C., U. S. Army, is already en route again to France to resume his duties as medical director for the Red Cross. Major Lambert is a member of a noted medical family. His father, Dr. Edward W. Lambert, an executive of ability, was for forty-five years chief medical adviser of the Equitable Life Assurance Society. This executive ability Major Lambert seems to have inherited to a remarkable degree, as indicated by his achievements. Dr. Lambert was born, Dec. 15, 1861, and received his A.B. from Yale in 1884, his Ph.D. in 1885, and his M.D. degree from the College of Physicians and Surgeons of Columbia University in 1888. After two years' service as an intern in Bellevue Hospital he entered on the active practice of his profession. He became attending physician at Bellevue Hospital in 1894, served as assistant bacteriologist in the New York Health Department from 1894 to 1901, and since 1898 has been professor of clinical medicine in the

1. See weekly News Letter published by the United States Department of Agriculture, Washington, May 29, 1918.

Cornell University Medical College. He has been attending and consulting physician in several New York hospitals, and is recognized especially for his work in circulatory diseases and in the treatment of drug and alcohol addictions. In the American Medical Association he has served in the House of Delegates as a representative of the great state of New York, became a member of the judicial council in 1911, and has been chairman of that body since 1912. As chairman of this council he worked in cooperation with a committee of the Council on Health and Public Instruction in the compilation of much material and in the issuing of notable reports on workmen's compensation and health insurance. In 1917 he became president of the Medical Society of the State of New York. Since 1907 he has been a member of the Medical Reserve Corps of the United States Army; a brief month after the United States entered the war he was ordered to active duty in France as deputy commissioner of war relief of the Red Cross and chief medical adviser of all American Red Cross activities in France and Belgium. His election to the presidency of the American Medical Association is but another recognition of services well rendered with an adequate conception of the duties of a physician to himself, to the public, to the state and to the nation. It does not mark, we are sure, the culmination of an already noteworthy career; it is but the placing of an earnest worker in a position in which he can render still greater service to worthy activities.

ENLISTMENT IN THE MEDICAL RESERVE CORPS

Since the publication in THE JOURNAL, June 1, of the survey of the medical profession's war service and the repetition of the call of the Surgeon-General for 5,000 additional medical reserve officers before Jan. 1, 1919, there has been a display of renewed active interest by the medical profession in military service. It cannot be called a revival, because at no time has the interest of the medical profession lapsed. Judging from the large number of inquiries now being received, however, interest is at fever pitch. Hundreds of letters and even telegrams have been received by THE JOURNAL asking for information, for application blanks, in fact, asking THE JOURNAL to make the decision as to whether or not it was the duty of the individual inquirer to enter the service. In order successfully to inform physicians, THE JOURNAL has grouped in a small booklet, "Information Regarding Appointment in the Medical Reserve Corps of the United States Army," a number of short, practical paragraphs relative to method of application, the equipment of officers, government insurance, the customs of the service, and work in the training camps. Copies of this booklet will be sent to physicians on receipt of a stamped addressed envelop. The American Medical Association and THE JOURNAL stand willing and ready to do everything possible to aid physicians in their desire to enter the service of our government in any capacity. Inquiries will be cheerfully answered in as reasonable a time as is consistent with the securing of accurate information.

Medical Mobilization and the War

Personnel of the Medical Department

For the week ending June 14, 1918, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 877, including 1 major-general, 65 colonels, 110 lieutenant-colonels, 298 majors and 403 lieutenants.

MEDICAL RESERVE CORPS: 19,477, including 1,410 majors, 5,245 captains and 12,822 lieutenants. On active duty: 17,763, including 1,345 majors, 4,979 captains and 11,439 lieutenants.

MEDICAL CORPS, NATIONAL GUARD: 1,198, including 20 lieutenant-colonels, 255 majors, 188 captains and 735 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 284, including 6 brigadier-generals, 56 colonels, 213 lieutenant-colonels and 9 majors.

THE DISCHARGES to date are:

Causes	Number M.R.C.	M.C.N.G.
Physical disability	686	53
Inaptitude	263	21
Other branches of service	567	72
Resignations	162	33
Domestic troubles	59	0
Needed by community	50	0
Deaths	84	6
Dismissals	11	3
Duty completed	1	0
No reasons given	14	0
	1,897	188

Red Cross Needs Medical Men Abroad

The American Red Cross needs physicians and surgeons for its work abroad. The Medical Reserve Corps of the Army takes precedence over all other calls but there must be men who, rejected for slight physical disability or for being between 55 and 60 years of age, should be available for the various medical duties of the Red Cross. The teaching staff of the medical schools will not be taken unless with the written permission of the dean. Medical men are wanted for clinical work in medicine and surgery, for administration work, for hospital administration, and for the medical work in the manifold Red Cross activities. All who can go as volunteers, paying all their expenses, should do so to aid the Red Cross; but if this is impossible, the Red Cross is prepared to pay their expenses and, when necessary, to add the salary of a first lieutenant—$160 a month. It will be possible to have men go for work in the Red Cross for eight or nine months abroad and six months home, and again eight months abroad, thus having a rotating service as regards personnel, but a continuous medical service. All applications should be made to Dr. Alfred E. Shepley, Medical Personnel Bureau, Red Cross, Washington, D. C.

ALEXANDER LAMBERT,
Chief Medical Adviser, Red Cross in France.
4 Place de la Concorde, Paris.

Army School of Nursing to Be Established

In order to provide adequately for the sick and wounded of a future possible army of unlimited size, the Surgeon-General of the Army has been authorized to establish an Army School of Nursing with branch training schools in various selected military hospitals throughout the country. The admission qualifications for young women desiring to attend this school are: age, between 21 and 35, a high school education or its equivalent, and physical and moral fitness. A course leading to a diploma in nursing will be given, should the military hospitals continue for the full period of the usual nursing course; should these hospitals be discontinued, on the cessation of hostilities before the completion of the course, a certificate will be issued which will entitle the holder to credit in a civil hospital for the period spent in the military hospital and for those branches in nursing successfully completed. Thus this Army School of Nursing will provide sufficient nursing service for the military hospitals and, while giving an opportunity to thousands of patriotic women who wish to serve their country in this capacity, it will give training very valuable to the candidates whether or not they take up nursing as a profession. Until otherwise specified, applications may be sent directly to the Army School of Nursing, Office of the Surgeon-General of the Army, Washington, D. C.

Leave of Absence for Medical Officers

Officers of the higher grades in the Medical Department, who have been serving continuously for six months at their desks on department business, will be required to take at least a two weeks' vacation, according to a memorandum which, it is reported, has been sent to the Surgeon-General of the Army by Secretary Baker. The memorandum states that this is necessary in order to retain the high efficiency of the Medical Department.

Camp Upton Base Hospital Issues New Publication

The first issue of a publication entitled *The Cure*, "published in the interests of the base hospital rather often" with the "largest high grade hospital circulation in Camp Upton, N. Y.," has just appeared. It is a four page news issue edited by the enlisted personnel of the Medical Department. The value of such publications in sustaining the interest of the men in the work and in upholding that elusive but most desirable quality, known as morale, can hardly be overestimated.

Special Duty for Enlisted Chemists

As the military service is in great need of chemists, the War Department has notified Army commanders that all enlisted men who are graduate chemists must be assigned to duty where their training can be most fully utilized. Therefore commissioned officers have been directed to ascertain the number of graduate chemists now on duty in their commands and to report their names to the Adjutant-General's Office at Washington, D. C., stating in their report special qualifications for any particular branch of chemical work and whether these chemists are now employed on chemical duties. Chemists now in military service in the United States have been ordered transferred to the nearest depot brigade; those now in depot brigades, or hereafter received by them will be assigned to service by the Adjutant-General's Office. Graduate chemists will be sent overseas only on chemical duties, and will be transferred to the nearest detachment or organization of their corps prior to departure.

MEMORANDUM FOR THE SURGEON-GENERAL OF THE UNITED STATES ARMY*

At a meeting of representatives of well recognized medical schools in Chicago, June 11, 1918, called by the Surgeon-General of the Army, the following Advisory Committee on Medical Schools was chosen to act as representative of the medical schools in cooperation with the Medical Department of the Army: Ray Lyman Wilbur, president of Leland Stanford University, chairman; Dr. William J. Means, president of the Association of American Medical Colleges; Dr. Samuel W. Lambert, dean of Columbia University College of Physicians and Surgeons; Dr. J. Whitridge Williams, dean of Johns Hopkins University Medical Department; Dr. Theodore Hough, dean of the University of Virginia Department of Medicine; Dr. John M. Baldy, president of the Pennsylvania Bureau of Medical Education and Licensure, and Dr. N. P. Colwell, secretary of the Council on Medical Education of the American Medical Association, secretary.

June 12, this committee met in conference with the Standing Committee on Medical Education of the Medical Department, consisting of Col. F. F. Russell, Col. V. C. Vaughan, Lieut.-Col. W. H. Welch and Lieut.-Col. H. D. Arnold.

It was voted that Dr. W. A. Pearson of Philadelphia and Dr. John K. Scudder of Cincinnati be added to the Advisory Committee on Medical Schools as representatives, respectively, of the American Institute of Homeopathy and the National Eclectic Medical Association.

The following recommendations were unanimously adopted:

It is recommended that only such medical schools as are amply equipped with teachers, laboratory facilities and clinical material be permitted to enter at this time on a plan of continuous sessions.

It is recommended that the Surgeon-General approve of summer sessions for senior students in such well recognized medical schools as, in his opinion, can furnish the instruction without lowering educational standards.

We approve of the following recommendations in the memorandum from the Surgeon-General to well recognized medical schools, dated May 24, 1918:

OTHER PROVISIONS FOR STUDENTS DURING THE SUMMER OF 1918

Provision should be made for all students who have conditions—either entrance conditions or those incurred in the medical course—to remove these conditions before the opening of the fall session. The plan of continuous sessions leaves little opportunity for making up conditions, and students who are left on inactive status must make normal progress with their class.

Please notify your students of the wishes of the Surgeon-General in this matter.

Students with remediable physical defects should be urged to have these removed during the coming summer. The desirability of thus saving time, and of securing a more complete recovery before active service, is obvious.

Students who must earn money in order to continue their medical education may be allowed to do this during the summer of 1918.

Students who are not provided for by the foregoing arrangements should devote the vacation period to clinical or laboratory work which would better fit them for the duties of medical officers. Schools which cannot organize complete courses for all classes in the school can render valuable service by organizing special courses for some of these students.

It is not practicable for the Medical Department to organize summer military training this year for medical students on an extensive scale.

By these arrangements every medical student on inactive status in the Medical Enlisted Reserve Corps may utilize the summer in active preparation for better service as a medical officer. It is believed that no patriotic enlisted man will be satisfied to take a long vacation when his drafted relatives and friends are in active military service.

FRESHMAN CLASS

Those medical schools which have heretofore held regular summer sessions will, of course, be permitted to continue the admission of students to the freshman class at this time. Schools which adopt the continuous session plan to begin this summer may organize a freshman class to begin the course between June 1 and July 1, 1918.

Well recognized medical schools are authorized to begin matriculation of the freshman class of 1918-1919 at once, whether the next session begins this summer or in the fall. A bona fide matriculation will be accepted as establishing membership in the class, as affecting eligibility for enlistment in the Medical Enlisted Reserve Corps.

ENTRANCE REQUIREMENTS

Permission to enlist in the Medical Enlisted Reserve Corps must now be obtained from the Surgeon-General's Office for each individual case.

Such permission will be granted in the case of medical students, who matriculate in the freshman class of the regular medical course, only when the dean's affidavit shows that matriculation has been based on acceptable credentials which meet the following entrance requirements:

The full completion of fourteen units of secondary education, and, in addition, studies of collegiate grade as follows:

1. In those schools which are members of the Association of American Medical Colleges, at least sixty semester hours of college premedical work in a well recognized university, college, or medical school, including at least twenty-four semester hours in chemistry, biology and physics. Credit for at least ten of these twenty-four hours must be for laboratory work, and there shall be credit for at least six semester hours in each of the three sciences of chemistry, biology and physics.

2. In those schools which now require at least two years of college work for entrance, the same requirements, whether members of the Association of American Medical Colleges or not.

3. In those schools which are not members of the Association of American Medical Colleges, and have not heretofore required two years of college work for entrance and have not announced a two year entrance requirement for the session of 1918-1919, at least thirty semester hours of college work of which at least eight semester hours are in chemistry, eight in biologic sciences, and six in physics; and of these at least four semester hours shall be for laboratory work in Chemistry, at least four in biologic sciences, and at least two in physics. All these specifications must be fully met without any conditions and all must be collegiate work.

LIMITATIONS OF NUMBERS

While it is desirable to train as many medical students as possible, and all good schools should be encouraged to accept students to the limit of their capacity, it is also essential that enlisted medical students should obtain an adequate professional training in preparation for the duties of medical officers.

Unless they can obtain such satisfactory training, the Surgeon-General will not be justified to leave them on inactive status. Therefore the number of students admitted to the freshman class should be limited to a number agreed on after conference with the Surgeon-General's Office.

Preference in matriculation should be given to candidates who are already members of the Medical Enlisted Reserve Corps.

Preference next should be given to those who appear to be eligible to become medical officers on graduation. The question of physical fitness should receive consideration. The following facts in regard to nationality affect the problem: A person must be a full citizen in order to receive

* Published by request of Surgeon-General Gorgas.

a commission, and will not be granted a commission if born in an enemy country, whether a citizen or not. Approval for enlistment, therefore, will not be given to those born in enemy countries, nor to other foreign born students unless they have taken out first naturalization papers.

The admission of students who are not eligible for a commission in the Army is not forbidden; but attention is called to the importance of first providing places for *all* who are eligible for military service.

It is recommended that when and where feasible the Surgeon-General shall arrange for active military service for medical students during the summer vacations, with the object of shortening the time for completing their training as medical officers.

It is recommended that the Surgeon-General consider as "well recognized medical schools" only those which enforce as a minimum requirement for admission, two years of college work, including courses in physics, chemistry and biology.

It is recommended that the teaching forces of the schools, as well as the students, be included in the Student Army Training Corps, and that the teachers of all subjects who are otherwise eligible shall be commissioned with suitable rank in that corps.

It is recommended that eligible members of the faculties of well recognized medical schools be commissioned with suitable rank in said corps, and that a sufficient number of these officers be assigned to duty in medical schools with periods of service long enough to provide for the efficient teaching of the medical students. Where feasible, it is desired that such officers alternate in active duty between service with the troops and teaching in medical schools.

It is further recommended that all students who are members of the Medical Enlisted Reserve Corps and the commissioned members of the faculty be required to wear uniforms. It is recommended also that similar provision be made for commissions and uniforms for nonmedical members of the faculties of well recognized medical schools.

Major departments in a medical school cannot be considered as adequately organized unless at least one competent man be retained in addition to the head of the department who can assume his duties.

It is recommended that teachers of medical schools inform themselves of the special application of their subjects to problems of war, and, so far as practicable, include such topics and application in their courses of instruction, always bearing in mind that they are training men for service in the Army; and also consider the feasibility of an interchange between different schools of teachers possessed of this knowledge.

The committee calls special attention to the importance of continuing research work in our medical schools and of providing sufficient personnel for this purpose.

It is recommended that the machinery for carrying out these recommendations be in the office of the Surgeon-General in conference with the dean or other authorized representatives of the medical schools.

The committee voted to present the same recommendations to the Surgeon-General of the Navy, with the suggestion of the desirability of the adoption of the same measures as far as possible.

F. F. RUSSELL, Colonel M. C., N. A.,
Chairman of the Standing Committee on Medical Education of the Medical Department of the United States Army.

RAY LYMAN WILBUR,
Chairman, Advisory Committee on Medical Schools.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

From Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ended June 7, 1918

1. ANNUAL ADMISSION RATE PER 1,000 (disease only):

	Last Week	
All Troops	1056.1	974.5
Divisional Camps	1135.3	757.8
Cantonments	975.6	1098
Departmental and Other Troops	1101.1	979.4

2. NONEFFECTIVE RATE PER 1,000 ON DAY OF REPORT:

All Troops	37.8	36.8
Divisional Camps	36.8	31.7
Cantonments	42.2	43.1
Departmental and Other Troops	33.6	32.7

3. ANNUAL DEATH RATE PER 1,000 (disease only):

All Troops	3.16	4.01
Divisional Camps	3.2	2.5
Cantonments	3.6	6.
Departmental and Other Troops	2.58	2.7

NEW CASES OF SPECIAL DISEASES DURING THE WEEK ENDING JUNE 7, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal		Measles	Meningitis	Scarlet Fever	Deaths	Annual Admission Rate per 1,000 (disease Only)	Noneffective per 1,000
				Total	New Infections						
Beauregard	4	5	22	129	4	2	2	..	2	927.3	47.0
Bowie	4	..	2	52	51	2	..	..	1	764.1	25.3
Cody	11	..	..	3	3	...	..	1	3	907.8	24.5
Doniphan	...	..	..	15	...	3	..	1	2	1,479.5	44.0
Fremont	3	..	2	14	7	6	..	1	4	1,016.9	38.6
Hancock	...	..	..	74	...	1	..	..	0	985.8	43.5
Kearny	4	..	1	4	...	4	1	1	3	570.7	20.0
Logan	2	..	..	44	...	...	..	..	2	3,198.0	15.0
MacArthur	...	..	..	...	...	3	..	..	0	1,022.6	37.2
McClellan	2	..	4	26	10	3	..	..	0	582.2	25.0
Sevier	10	..	7	260	4	7	..	..	0	1,346.3	46.5
Shelby	...	..	8	15	3	2	..	1	0	1,007.3	39.3
Sheridan	...	..	1	35	...	6	..	..	0	613.6	35.0
Wadsworth	2	..	1	84	...	18	..	..	3	1,257.0	29.9
Wheeler	4	..	..	25	5	...	..	..	6	2,846.2	50.9
Custer	4	..	1	68	9	11	..	..	2	869.3	20.5
Devens	16	..	1	37	7	10	3	..	6	627.2	36.4
Dix	3	1	1	170	2	8	1	6	2	871.3	34.3
Dodge	4	..	2	90	...	14	..	2	3	1,239.9	59.1
Funston	...	..	..	50	4	6	2	..	2	787.1	55.4
Gordon	14	..	2	140	5	34	2	..	2	1,519.7	67.6
Grant	1	..	..	34	...	3	2	..	2	373.9	17.0
Jackson	9	..	1	114	...	58	..	..	1	1,412.7	57.7
J. E. Johnston	2	..	..	74	64	6	..	2	0	1,198.9	41.6
Lee	9	..	5	272	...	...	6	..	3	1,158.6	37.5
Lewis	4	..	3	235	5	3	3	9	5	1,007.9	33.1
Meade	3	..	..	18	4	2	1	..	1	550.7	29.4
Pike	14	4	15	72	12	44	2	..	5	1,684.2	60.7
Sherman	2	..	1	74	...	4	..	..	0	1,017.4	58.5
Taylor	7	..	..	102	...	16	..	..	0	1,017.4	42.9
Travis	1	..	6	69	6	26	1	1	2	1,386.1	39.5
Upton	8	..	1	283	34	...	1	1	5	740.7	27.2
Northeastern Dept.	2	..	..	27	14	3	..	..	1	735.5	28.5
Eastern Dept.	11	..	4	148	46	8	1	1	3	900.5	22.3
Southeastern Dept.	...	..	3	226	18	5	..	..	2	1,614.0	43.3
Central Dept.	2	..	1	78	37	5	..	2	1	1,591.5	42.2
Southern Dept.	8	2	1	257	90	13	..	9	6	1,172.5	34.4
Western Dept.	5	..	..	69	28	15	..	6	2	916.9	23.0
Aviation, S. C.	16	7	4	205	...	14	..	3	14	1,055.7	30.8
Akatraz, D. B.	...	..	..	...	...	...	..	..	0	800.0	12.3
Columbus Bks.	...	..	..	22	1	...	..	..	0	570.0	18.7
Edgewood Arsenal	...	..	..	1	1	...	..	..	1	779.0	20.0
Hoboken	5	..	7	225	19	37	4	..	3	892.9	29.5
Jefferson Bks.	3	..	..	177	2	4	..	3	1	1,598.6	77.5
Leavenworth, D. B.	...	..	..	6	...	1	..	..	0	800.0	38.3
Fort Logan	...	..	..	10	...	...	..	1	2	1,691.5	50.3
Fort McDowell	2	1	..	45	...	3	..	1	0	3,824.5	101.0
Newport News	10	..	4	378	12	11	2	1	3	1,402.4	61.6
Fort Slocum	2	..	..	100	2	...	..	..	0	2,058.7	47.0
Springfield Arm.	...	..	..	...	...	...	..	..	0	...	...
Fort Thomas	1	..	1	17	...	4	..	..	0	985.0	29.0
Watervleit	...	..	..	...	...	...	..	..	0	600.0	23.9
West Point	...	..	..	1	...	...	..	..	0	785.4	13.8
Total	222	20	111	4,806	507	425	34	54	114	1,056.1	37.8

ANNUAL RATE PER 1,000 FOR SPECIAL DISEASES

	All Troops in U. S., Week Ending June 7, 1918	Departmental and Other Troops, Week Ending June 7, 1918	Divisional Camps, Week Ending June 7, 1918	Cantonments, Week Ending June 7, 1918	Expeditionary Forces, Week Ending May 30, 1918
Pneumonia	8.07	6.7	8.5	9.1	15.0
Dysentery	0.7	1.0	0.8	0.5	0.43
Malaria	4.0	2.33	8.0	3.4	0.95
Venereal	174.9	208.0	133.4	167.5	28.2
Paratyphoid	0.0	0.0	0.0	0.0	0.0
Typhoid	0.14	0.0	0.3	0.17	0.08
Measles	15.46	12.2	9.5	21.4	8.6
Meningitis	1.23	0.69	0.5	2.1	2.5
Scarlet fever	1.96	2.68	0.8	1.9	7.2

COMMISSIONS ACCEPTED

ALABAMA

H. B. SEARCY, Tuscaloosa

ARIZONA

L. P. KAULL, Jerome

CALIFORNIA

W. BARNHART, Los Angeles
E. M. CLINTON, Los Angeles
H. H. LISSNER, Los Angeles
W. T. ROTHWELL, Los Angeles
C. G. TOLAND, Los Angeles
P. G. WHITE, Los Angeles
E. A. DIGGINS, San Francisco
V. H. HULEN, San Francisco
P. K. JACKSON, San Francisco
A. A. SHUFELT, San Francisco
J. A. GUILFEIL, San Luis Obispo

CONNECTICUT

J. F. O'BRIEN, Hartford
A. E. BRIDES, New Haven
J. RUSSO, New Haven

DELAWARE

H. W. HOWELL, Wilmington

DISTRICT OF COLUMBIA
C. F. FOWLER, Washington
A. M. MacDONALD, Washington

FLORIDA
B. O. WHITTEN, Fort Pierce
W. S. MANNING, Jacksonville
R. D. TOMPKINS, Jasper
J. C. VINSON, Tampa

GEORGIA
R. T. DORSEY, Atlanta
A. ELKIN, Atlanta
G. C. MIZELL, Atlanta
W. R. RICHARDS, Calhoun
E. F. GRIFFITH, Eatonton
G. O. ALLEN, Fargo
F. P. NORMAN, Greenville
H. H. HAMMETT, LaGrange

ILLINOIS
J. A. HALE, Alto Pass
H. A. HOUGH, Arrowsmith
J. V. ANDERSON, Chicago
F. H. DORNBUSH, Chicago
R. T. FARLEY, Chicago
N. C. GILBERT, Chicago
J. T. GREGORY, Chicago
G. D. J. GRIFFIN, Chicago
W. B. McCAULEY, Chicago
J. L. NORTELL, Chicago
W. PORTER, Chicago
C. W. H. RASMUSSEN, Chicago.
L. F. SKLEBA, Chicago
B. SUPPIGER, Chicago
L. C. WEST, Chicago
A. O. MAGILL, Concord
E. L. WINSLOW, Danville
E. LOGAN, Galena
O. COHEN, Joliet
P. J. EWERHARDT, Kankakee
P. E. McLEAN, Marca
A. F. MUELLER, McHenry
W. E. CLAY, Mount Carroll
J. M. MORAN, Oak Forest
J. SCHLESINGER, Oak Forest
C. DeK. BUNDY, Sadorus
G. P. SANDROCK, Shannon
J. C. FOLEY, Waukegan

INDIANA
E. RUPEL, Bryant
F. L. TOWNSLEY, E. Chicago
A. C. KLAUSER, Delphi
H. M. SENSENY, Fort Wayne
W. D. KEISER, Indianapolis
G. H. VAN KIRK, Kentland
O. M. JOHNSON, Kokomo
K. M. KOONS, Mulberry
W. T. FISHER, Shelbyville.
H. J. PIERCE, Terre Haute

IOWA
N. McP. WHITEHILL, Boone
J. I. MARKER, Centerville
C. H. JOHNSON, Cherokee
J. M. MANSFIELD, Clinton
J. M. NYQUIST, Eldora
R. LOVELADY, Sidney
M. D. WINTER, Turo
R. L. LATCHEM, Walnut
W. J. FOSTER, Iowa City

KANSAS
C. E. COBURN, Kansas City
A. FULTON, Kansas City
G. M. GAFFORD, Kinsley
G. A. LANDES, Parsons

KENTUCKY
H. A. LICHTWARDT, Berea
T. D. RUDD, Hopkinsville
C. K. BECK, Louisville.
J. K. FREEMAN, Louisville.
C. MENENDEZ, New Orleans
J. W. ROSENTHAL, New Orleans
A. L. WHITMIRE, New Orleans

MAINE
A. H. LITTLE, Portland
J. J. TOPHAM, Springvale

MARYLAND
H. B. RICHARDSON, Baltimore
F. E. ROBERTS, Baltimore

MASSACHUSETTS
D. J. HURLEY, Boston
J. E. RUISI, Boston
G. H. MAXFIELD, Chelsea
C. C. PERSONS, Maynard
E. A. GREENE, Palmer

MICHIGAN
C. B. MANDEVILLE, Ann Arbor
L. J. GIBSON, Bay City
F. W. CLEMENTS, Detroit
C. C. PIPER, Detroit
B. N. SOROSE, Detroit
A. M. SHAEFFER, Jackson
L. O. S. WALLACE, Newberry

MINNESOTA
U. R. WILSON, Brainerd
W. B. MARTIN, Fergus Falls
A. A. WOHLRABE, Mankato
H. C. HANSEN, Minneapolis
T. E. FLINN, Redwood Falls
H. E. HULLSICK, St. Paul
H. A. MOLANDER, St. Paul
T. J. TRUTNA, Silver Lake

MISSISSIPPI
R. GOING, Vicksburg

MISSOURI
L. S. JAMES, Blackburn
E. L. MEARS, Bonnots Mill.
A. J. SMITH, Boonville
O. L. SEABAUGH, Cape Girardeau
G. W. ELDERS, De Soto
A. L. SAWYER, Fort Fairfield
W. G. THOMPSON, Holden
J. T. ANDERSON, Kansas City
D. H. BOKHOF, Kansas City
J. R. CRAWFORD, Kansas City
F. M. DENSLOW, Kansas City
F. B. KYGER, Kansas City
H. S. THOMAS, Kansas City
N. ZOGLIN, Kansas City
G. KAEMMERLING, Joplin
R. H. MORRIS, Linneus
J. MADDOX, Moberly
J. H. YOUNG, Ozark
A. H. DIEHR, St. Charles
C. W. BERTRAM, St. Joseph
S. W. CLAUSEN, St. Louis
P. G. PAUGH, St. Louis
J. S. YOUNG, St. Louis

MONTANA
W. G. RICHARDS, Billings
L. G. SHROAT, White Sulphur Springs

NEBRASKA
R. A. YOUNG, Auburn
G. F. POPE, Winnemucca

NEVADA
C. H. CHURCH, Tonopah

NEW HAMPSHIRE
W. A. ALLEN, Hampstead

NEW JERSEY
A. REINGOLD, Hoboken
R. N. ABELS, Jersey City
S. BARISHOW, Jersey City
T. J. RIORDAN, Jersey City
J. A. HOLLAND, Mont Clair
W. C. MEAGHER, Mont Clair
G. E. GALLOWAY, Rahway

NEW MEXICO
G. V. HACKNEY, Magdalena

NEW YORK
D. F. O'KEEFE, Albany
H. H. BEINFIELD, Brooklyn
P. B. BREGMAN, Brooklyn
F. E. BROWN, Brooklyn
E. C. MONTGOMERY, Brooklyn
A. R. STEPHANY, Brooklyn
W. F. WATTON, Brooklyn
J. G. CHADWICK, Buffalo
B. P. MacLEAN, Jr., Huntington
E. J. HYLAND, Jamaica
L. N. SMERNOFF, Jamaica
C. H. MACKEY, Lancaster
F. W. ASH, New York
H. BAKWIN, New York City
W. BERNFIELD, New York City
F. A. BIEN, New York.
R. BURLINGHAM, New York City
W. E. CAMPBELL, Jr., New York City
T. H. CURTIN, New York
D. S. DOOMAN, New York
W. M. FORD, New York City
S. D. GIFFEN, New York City
A. LEIBOVITZ, New York City
W. C. MacDONALD, New York
H. S. MARCLEY, New York
D. A. McALUFFEE, New York
F. G. SCHAIBLE, New York
W. W. TRACEY, New York
A. WEINBERG, New York
N. G. ORCHARD, Rochester
W. W. WOGLOM, Ruyter
H. GAK, S. Onondaga

NORTH CAROLINA
R. M. LANCASTER, Dobson
W. MANN, New Bern
C. E. WOODING, Winston-Salem

NORTH DAKOTA
E. C. STUCKE, Garrison

OHIO
J. E. TALBOTT, Alger
A. E. KISER, Cincinnati
M. L. PETERSON, Cincinnati
E. C. MYLITT, Cleveland
D. V. ROSENBERG, Cleveland
W. A. ORT, Springfield
M. C. HOUSTON, Urbana
W. D. DAVIS, Wellston

OKLAHOMA
C. J. BRUNSON, Adamson
A. E. HALE, Alva
O. FRANKLIN, Broken Arrow
W. AITKEN, Enid
H. S. DRUMMOND, Haileyville
H. E. BREES, Henryetta
A. F. HOBBS, Hinton
V. H. MANN, McAlester
C. SHAW, McAlester
W. C. WAIT, McAlester
J. H. WHITE, Muskogee
R. D. LOWTHER, Norman
H. REED, Oklahoma City
B. F. NEWLON, Ponca City
H. B. JUSTICE, Sapulpa
G. L. McCALLUM, Sopulpa
W. B. NEWLON, Tulsa
V. M. GOREE, Taloga
G. A. WALL, Tulsa

OREGON
C. T. HOCKETT, Enterprise
R. W. STEARNS, Medford
J. W. McCOLLOM, Portland

PENNSYLVANIA
C. O. PETERS, Albion
L. L. BROWN, Castle Shannon
G. CROSS, Chester
J. W. WOOD, Chester
J. V. BURNS, Coaldale
M. U. STONEMAN, Crafton
W. G. TURNBULL, Cresson
D. R. MORGAN, Edwardsville
A. B. HAMILTON, Freeland
G. W. SMELTZ, Markleton
D. C. LINDLEY, New Castle
G. FETTEROLF, Philadelphia
F. FRALEY, Philadelphia
G. W. A. HESS, Philadelphia
S. D. INGHAM, Philadelphia
M. H. JOSEPH, Philadelphia
H. H. LOTT, Philadelphia
F. O. WAAGE, Philadelphia
E. C. NIEBAUM, Pittsburgh
R. J. FORD, Pittsburgh
H. L. W. WIGNALL, Pittsburgh
C. B. LAMP, Seminole
A. C. LAMADE, Williamsport
A. H. CAVEN, Youngwood

RHODE ISLAND
R. P. CAPWELL, Providence
W. G. DWINELL, Providence
W. A. RISK, Providence

SOUTH DAKOTA
A. G. ALLEN, Deadwood

TENNESSEE
P. W. EMERSON, Chattanooga
E. T. WEST, Johnson City
S. C. ANDREWS, Memphis
J. A. SANDERS, Nashville
B. E. DELOZIER, Townsend
J. B. CROSS, Wheat

TEXAS
W. D. BROWN, Beaumont
J. GRIMES, Beaumont
W. F. THOMPSON, Beaumont
O. N. MAYO, Belton
J. W. MACUNE, Davilla
F. W. FRANCIS, Fort Worth
S. H. MOORE, Houston
E. C. MURRAY, Houston
P. SCARDINO, Houston
H. LAFARGE, Kingsbury
W. THOMAS, Mabank
W. S. HANSON, San Antonio
L. S. JOHNSTON, San Antonio
W. B. URMSTON, San Antonio
D. M. STONE, San Antonio
F. C. WALSH, San Antonio

UTAH
R. KANZLER, Ogden
J. U. GIESY, Salt Lake City

VERMONT
H. F. TAYLOR, Hardwick
H. H. HANRAHAN, Rutland

VIRGINIA
P. E. TUCKER, Buckingham
H. WALL, Claremont
H. C. BRADFORD, Norfolk
J. L. STRINGFELLOW, Norfolk
H. M. WYE, Richmond
A. P. JONES, Roanoke

WASHINGTON
C. G. RAHAL, Ronald
C. D. HUNTER, Tacoma

WEST VIRGINIA
E. W. SMOOT, Clendenin
C. S. FLEMING, Fairmont
C. M. VAUGHAN, Farmington
R. L. DEVEREUX, Wheeling
J. W. GILMORE, Wheeling

WISCONSIN
J. SUTHERLAND, Brodhead
K. B. QUINN, Darlington
A. T. JOHNSON, Elkhorn
C. C. DAVIN, Weyerhauser

CORRECTION

The order published May 4, 1918, stating that Lieut. R. P. JOHNSON, M. R. C., was honorably discharged was in error. Lieutenant Johnson writes that he is at this time on active duty in Camp Shelby, Miss.

ORDERS TO OFFICERS OF THE MEDICAL CORPS AND OF THE MEDICAL CORPS OF THE NATIONAL ARMY

To Army Medical School for duty, from New York, Major FELIX R. HILL.

To Camp Crane, Allentown, Pa., for duty, from Fort Oglethorpe, Col. CLARENCE J. MANLY; from Camp Sherman, Lieut.-Col. EDWARD G. HUBER.

To Camp Custer, Battle Creek, Mich., for temporary duty, from Camp Sherman, Lieut.-Col. SAMUEL S. CRIEGHTON. Base hospital, from Fort Riley, Lieut. MERRILL K. LINDSAY.

To Camp Devens, Ayer, Mass., Camp Dix, Wrightstown, N. J., and *Camp Meade*, Annapolis Junction, Md., base hospitals, and on completion *to his proper station*, from Camp Upton, Lieut.-Col. JAY D. WHITHAM. *To Camp Devens* for temporary duty, from Camp Wadsworth, Lieut.-Col. CONDON C. McCORMACK.

To Camp Dodge, Des Moines, Ia., as assistant to camp surgeon, from Vancouver Barracks, Lieut.-Col. EDWIN W. RICH; from Camp Meade, Major BERTRAM P. BUCKWALL.

To Camp Gordon, Atlanta Ga., base hospital, from Camp Sheridan, Col. DAVID BAKER; from Fort Oglethorpe, Lieut.-Col. CRAIG R. SNYDER.

To Camp Greene, Charlotte, N. C., *Camp Wadsworth*, Spartanburg, and *Camp Sevier*, Greenville, S. C., *Camp Gordon*, Atlanta, Ga., *Camp McClellan*, Anniston, Ala., *Camp Pike*, Little Rock, Ark., and *Fort Oglethorpe* for inspection, and on completion *to his proper station*, Lieut.-Col. GEORGE E. DE SCHWEINITZ.

To Camp Jackson, Columbia, S. C., base hospital, from Fort Oglethorpe, Major GEORGE H. McCLELLAN.

To Camp Lee, Petersburg, Va., *Camp Jackson*, Columbia, S. C., *Camp Hancock*, Augusta, and *Camp Wheeler*, Macon, Ga., *Camp Shelby*, Hattiesburg, Miss., *Camp Sheridan*, Montgomery, Ala., and *Camp Beauregard*, Alexandria, La., for inspection, and on completion *to his proper station*, Lieut.-Col. HARRIS P. MOSHER. *To Camp Lee*, base hospital, from Camp Wadsworth, Major WILLIAM R. DEAR; from Fort Riley, Major JAMES A. WILSON.

To Camp Meade, Annapolis Junction, Md., for temporary duty, and on completion *to his proper station*, from Camp Wheeler, Lieut.-Col. GEORGE F. KEEMAN. Base hospital, from Fort Riley, Major ROBERT H. DUENNER.

To Camp Shelby, Hattiesburg, Miss., as assistant to camp surgeon, from Governors Island, Lieut.-Col. FREDERICK S. MACY. For inspection, and on completion *to his proper station*, from Camp Sheridan, Major CHARLES C. HILLMAN.

To Camp Sheridan, Montgomery, Ala., as commanding officer of base hospital, from Charleston, S. C., Col. LEIGH A. FULLER. *To Camp Sheridan*, Montgomery, Ala., *Camp Sevier*, Greenville, S. C., *Camp Greene*, Charlotte, N. C., *Camp Meade*, Annapolis Junction, Md., and *Camp Dix*, Wrightstown, N. J., for consultation, and on completion *to his proper station*, from Camp Kearny, Lieut.-Col. ALEXANDER MURRAY.

To Camp Sherman, Chillicothe, Ohio, *Camp Meade*, Annapolis Junction, Md., and Camp Dix, Wrightstown, N. J., base hospitals, and on completion *to his proper station*, from Camp Zachary Taylor, Lieut.-Col. WILL L. PYLES. *To Camp Sherman*, as assistant to camp surgeon, from Panama Dept., Major GEORGE C. BEACH, Jr.

To Camp Zachary Taylor, Louisville, Ky., *Camp Dodge*, Des Moines, Ia., and *Camp Grant*, Rockford, Ill., for investigation, and on completion *to their proper stations*, Col. FREDERICK F. RUSSELL; Lieut.-Col. WILLIAM H. WELCH.

To Charleston, S. C., for duty, from Surgeon-General's Office, Col. HENRY E. BIRMINGHAM.

To Chicago, Ill., Northwestern University, for duty, and on completion *to their proper stations*, Col. THEODORE C. LYSTER; Lieut.-Col. DAVID SILVER.

To Edgewood, Md., as camp surgeon, from Camp Wadsworth, Major SIDNEY L. CHAPPELL.

To Fort D. A. Russell, Wyo., for duty, from Fort Riley, Lieut. PAUL K. SAUER.

To Fort Leavenworth, Kansas, for duty, from Camp Lee, Lieut.-Col. FERDINAND SCHMITTER; from Rockefeller Institute, Major CYRUS B. WOOD.

To Fort Riley, as camp surgeon, from Camp Doniphan, Col. FRANK R. KEEFER.

To Hamilton, and Toronto, Ontario, Can., for consultation, and on completion *to his proper station*, Lieut.-Col. GEORGE DREYER.

To Hoboken, N. J., for duty, from Camp Custer, Lieut.-Col. NEAL W. WOOD; from Camp Cody, Lieut.-Col. JOHN C. NIERSON.

To Lakewood, N. J., and *Camp A. A. Humphreys*, Accotink, Va., for sanitary inspection, and on completion *to his proper station*, Lieut.-Col. FRANK W. WEED.

To New Haven, Conn., Otisville, and *Staten Island, N. Y.*, for inspection, and on completion *to his proper station*, Col. GEORGE E. BUSHNELL.

To New York City for duty, and on completion *to his proper station*, Lieut.-Col. JOHN A. HORNSBY.

To report to the Surgeon General of the Army for duty, from Hoboken, Col. ALFRED E. BRADLEY.

To San Francisco, Calif., for duty from Hawaiian Department, Lieut.-Col. HERBERT C. GIBNEY; Major CHARLES M. WALSON; from Camp Wheeler, Lieut. BENJAMIN B. MATTON.

To Washington, D. C., for consultation, and on completion *to his proper station*, from Cape May, Col. LOUIS BRECHEMIN; from Colonia, Lieut.-Col. ALFRED P. UPSHUR; from Fort McHenry, Lieut.-Col. HARRY S. PURNELL; from Fort McPherson, Col. THOMAS S. BRATTON; from Fort Porter, Lieut.-Col. THOMAS F. WOODSON; from Hoboken, Lieut.-Col. HENRY H. RUTHERFORD; from Lakewood, Col. ALLEN M. SMITH; from Takoma Park, Col. WILLARD F. TRUE. For duty, the Surgeon-General's Office, from Camp Devens, Lieut.-Col. LEARTUS J. OWEN; from Southern Department, Major EMERY B. NEFF.

The following order has been revoked: *To Fort Benjamin Harrison, Ind.*, for duty, from Fort Riley, Lieut. LEO P. BELL.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp A. A. Humphreys, Accotink, Va., to examine members of the command for tuberculosis, and on completion *to his proper station*, from Camp Meade, Lieut. BURTON F. AUSTIN, Chancellor.

To Camp Dick, Dallas, Tex., for duty, from Mineola, Capt. KOSCIUSKO W. CONSTANTINE, Roebuck Springs.

To Camp Forrest, Chickamauga Park, Ga., for duty, Lieut. HILLIE R. DYKES, Ariton.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Lieut. EUGENE P. COWGILL, Magnolia Springs.

To Camp MacArthur, Waco, Tex., for duty, Capt. JOHN McP. LOWREY, Birmingham.

To Fort MacArthur, Los Angeles, Calif., for duty, from Camp Hancock, Capt. MACK ROGERS, Birmingham.

To Fort Sill, Okla., for duty, Lieut. LEWIS E. SORRELL, Birmingham.

To Portland, Ore., Yeon Building, for duty, from Lake Charles, La., Lieut. TOLL H. SUDDUTH, Garden City.

Arizona

To San Francisco, Calif., for duty, Lieut. WILLIAM O. SWEEK, Phoenix.

Arkansas

To Hoboken, N. J., base hospital, from Army Medical School, Lieut. ARTHUR G. KEELEY, De Witt.

To Portland, Ore., Yeon Building, for duty, from Fairfield, Ohio, Lieut. R. NEWMAN BROWN, McGehee.

To report by wire to the commanding general, Southeastern Department, for assignment to duty, Capt. MARDELLE Y. POPE, Monticello; Lieuts. PASCHAL J. PARK, Cabot; JOHN W. BUSH, Hot Springs.

To Rockefeller Institute for instruction, in the treatment of infected wounds, and on completion, to Fort McPherson, Ga., for duty, from Camp Shelby, Lieut. FRED S. WATSON, Amity.

California

To Anchorage, Alaska, for duty, from Portland, Ore., Capt. HUMPHREY P. PALMER, Vacaville.

To Camp Bowie, Fort Worth, Texas, base hospital, from Douglas, Ariz., Major HARRY C. LOOS, San Diego.

To Camp Fremont, Palo Alto, Calif., base hospital, from Camp Kearny, Major WALTER V. BREM, Los Angeles. For duty, from Camp Lewis, Lieut. GLENN E. MYERS, Agnew.

To Camp Kearny, Linda Vista, Calif., as a member of the tuberculosis examining board, Lieut. CHARLES A. SHEPARD, San Bernadino.

To Camp Lee, Petersburg, Va., for duty, from New York City, Lieut. L. J. SCHERMERHORN, Stockton.

To Camp Travis, Fort Sam Houston, Tex., for temporary duty, from Fort Riley, Lieut. JOSEPH J. KAVANAGH, San Francisco.

To Camp Wadsworth, Spartanburg, S. C., for temporary duty, from Fort Riley, Lieut. CHARLES A. WARNER, Ontario.

To Camp Wheeler, Macon, Ga., for temporary duty, from Fort Riley, Lieut. CHARLES S. YOUNG, Los Angeles.

To Fort Oglethorpe for instruction, from Fort Riley, Lieut. FRANK W. H. TAYLOR, San Diego.

To Fort Riley, hospital train, from Camp Fremont, Capt. JAMES H. PARKINSON, Sacramento.

To Hoboken, N. J., for duty, from Camp Sheridan, Capt. WILLIAM H. WICKETT, Fullerton.

To Princeton, N. J., for conference, and on completion *to Philadelphia*, from Philadelphia, Major FREDERICK P. GAY, Berkeley.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieuts. FRED O. BUTLER, Eldridge; EDWARD A. DIGGINS, ARCHIBALD A. NORTON, San Francisco.

To San Francisco, Calif., for instruction, and on completion *to Camp Cody*, Deming, N. M., base hospital, Capt. WALTER A. BAYLEY, Los Angeles.

To Vancouver Barracks, Wash., for duty, from San Francisco, Capt. FRED R. FAIRCHILD, Woodland.

To Waco, Texas, for duty, from Mineola, Lieut. FREDERICK C. LEWITT, San Francisco.

To Williamsbridge, N. Y., for temporary duty, from Camp Hancock, Capt. THOMAS R. PETCH, Eureka.

Canal Zone

To Army Medical School for instruction, Lieut. JAMES W. SHERRILL, Ancon.

To Fort Oglethorpe for duty, from Walter Reed General Hospital, Major SURSE J. TAYLOR, Cristobal.

To report to the commanding general, Panama Canal Department, for duty, Lieut. JOHN C. SCOTT, Ancon.

Colorado

To Camp Custer, Battle Creek, Mich., base hospital, Major JACOB C. EPLER, Pueblo.

To Fort Oglethorpe for instruction, from Fort Riley, Lieut. LOUIS G. BROWN, Colorado Springs.

To Hoboken, N. J., base hospital, from Camp Fremont, Lieut. FRANK DUNKLE, Denver.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. CHARLES O. BOOTH, Saleda.

To Rockefeller Institute for instruction in laboratory work, and on completion to Army Medical School, for duty, Lieut. RUFFIN A. PAINE, Denver.

Connecticut

To Camp A. A. Humphreys, Accotink, Va., as orthopedic surgeon from Fort Oglethorpe, Capt. ROBERT M. YERGASON, Hartford.

To Camp Gordon, Atlanta, Ga., for duty, Lieuts. BENJAMIN V. FINKELSTONE, Bridgeport; ISIDORE HENDEL, New London.

To Camp Jackson, Columbia, S. C., for duty, Lieut. HYMAN A. LEVIN, New Haven.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Capt. JOHN A. KEYTON, Norwich. *To Camp Meade, Camp Dix*, Wrightstown, N. J., and *Camp Upton, L. I., N. Y.*, for consultation and on completion *to his proper station*, from Camp Sherman, Major LOUIS Y. MASON, Willimantic.

To Edgewood, Md., base hospital, from Camp American University, Lieut. MICHAEL E. CLAFFEY, Naugatuck.

To Fort Oglethorpe for instruction, Lieuts. JOSEPH F. O'BRIEN, ARTHUR F. ROCHE, THEODORE LEE STOREY, Hartford.

To Hoboken, N. J., base hospital, Lieut. KARL R. BRETSFELDER, New Haven.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieuts. HARTWELL G. THOMPSON, Hartford; JOSEPH D. RUSSO, New Haven.

To Newport News, Va., for duty, Lieut. HERBERT A. ROBERTS, Shelton.

Delaware

To Camp Custer, Battle Creek, Mich., base hospital, from Fort Oglethorpe, Lieut. ABRAM J. GROSS, Wilmington.

District of Columbia

To Army Medical School for instruction, Lieuts. IRL C. RIGGIN, MERRILL C. SOSMAN, JOHN B. WHITE, Washington.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Lieut. HARRY A. BISHOP, Washington.

To Fort McPherson, Ga., for duty, Lieut. FREDERICK M. NOLAN, Washington.

To Fort Oglethorpe for instruction, Lieut. WILLIAM C. MILLER, Takoma Park.

The following order has been revoked: *To Camp Jackson*, Columbia, S. C., for duty, Lieut. WILFRED M. BARTON, Washington.

Florida

To Camp Gordon, Atlanta, Ga., for duty, Lieut. SAMUEL ARONOVITZ, Jacksonville.

To Camp Lee, Petersburg, Va., as assistant to camp surgeon, from Fort Oglethorpe, Major GEORGE R. PLUMMER, Key West.

To Camp Sherman, Chillicothe, Ohio, for temporary duty, from Fort Oglethorpe, Lieut. HERBERT A. McCLURE, Greenwood.

To Fort Des Moines, Iowa, base hospital, from Washington, D. C., Capt. GEORGE B. COON, Tampa.

To Miami, Fla., Gunnery School, for duty, Lieut. WILLIAM A. MILLS, Miami.

To Portland, Ore., Yeon Building, for duty, from Arcadia, Capt. HENRY P. BEVIS, Arcadia.

Georgia

To Camp A. A. Humphreys, Accotink, Va., to examine members of the command for tuberculosis, and on completion *to his proper station*, from Camp Meade, Lieut. RALPH E. HAMILTON, Douglasville.

To Camp Bowie, Fort Worth, Texas, base hospital, from Army Medical School, Lieut. GALVIN W. DAVIS, Atlanta.

To Camp Greene, Charlotte, N. C., for duty, from Americus, Major WILLIAM A. JACKSON, Atlanta.

To Camp Jackson, Columbia, S. C., for duty, Lieuts. WILLIAM H. RICHARDS, Calhoun; CHARLES B. UPSHAW, Rydal.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Army Medical School, Lieut. JEFFERSON W. PAFFORD, Nicholls.

To Houston, Texas, Signal Corps Aviation School for duty, from Americus, Capt. JOHN McG. SPENCE, Camilla.

To New Haven, Conn., for duty, Lieut. ARCH ELKIN, Atlanta.

To report by wire to the commanding general, Southeastern Department, for assignment to duty, Lieut. CARSWELL J. HIND, JR., Atlanta.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty, Lieut. EMMET B. ANDERSON, Atlanta.

Idaho

To Camp A. A. Humphreys, Accotink, Va., to examine members of the command for tuberculosis, and on completion *to his proper station*, from Camp Meade, Capt. CLYDE E. WATSON, Nampa.

To Fort Oglethorpe for instruction, from Fort Riley, Capt. JOSEPH ASPRAY, Moscow.

Illinois

To Army Medical School for instruction, from Camp Dodge, Lieut. CHARLES A. CIBELIUS, Chicago.

To Blacksburg, Va., Virginia Polytechnic Institute, to make physical examinations and give medical attention to the drafted men enrolled at this institution, and on completion *to his proper station*, from Camp Wadsworth, Lieut. JOHN V. DILLMAN, Louisville.

To Boston, New York City and *Philadelphia*, for duty, and on completion *to his proper station*, from Chicago, Major JOHN RIDLON, Chicago.

To Camp A. A. Humphreys, Accotink, Va., to examine the command for nervous and mental diseases, from Camp Travis, Capt. JAMES K. POLLOCK, Elgin. To examine members of the command for tuberculosis, and on completion *to his proper station*, from Camp Meade, Lieut. JOHN F. GRANT, Chicago.

To Camp Cody, Deming, N. M., base hospital, Capt. ST. ELMO M. SALA, Rock Island.

To Camp Crane, Allentown, Pa., base hospital, from Camp Grant, Lieut. HARRY W. KINNE, West Chicago.

To Camp Custer, Battle Creek, Mich., base hospital, Capt. JUNIUS C. HOAG, Chicago. For duty, Lieuts. HENRY A. HOUGH, Arrowsmith; ARTHUR B. SUPPE, Chicago; JOHN J. HOPKINS, Hindsboro; GEORGE P. SANDROCK, Shannon.

To Camp Devens, Ayer, Mass., for duty, from Chicago, Lieut. CHARLES L. KERRICK, Chrisman.

To Camp Dix, Wrightstown, N. J., for duty, Capt. ROBERT A. SEMPILL, Chicago.

To Camp Dodge, Des Moines, Iowa, for temporary duty, from Fort Riley, Lieut. MELVIN L. HOLE, Danville.

To Camp Gordon, Atlanta, Ga., for duty, Capt. EDWIN L. WINSLOW, Danville; Lieut. FRANKLIN H. DORNBUSCH, Chicago; from Camp Meade, Capt. ROY R. FERGUSON, Chicago; from Camp Sherman, Lieut. HARVEY C. ASHER, Chicago; from Fort Oglethorpe, Lieut. CLARENCE W. FLINT, Chicago.

To Camp Hancock, Augusta, Ga., for duty, from Camp Shelby, Capt. CLAUSEN M. WILMOT, Speer.

To Camp Jackson, Columbia, S. C., base hospital, Lieut. LESTER C. WEST, Chicago. For duty, Lieuts. ANSELL O. MAGILL, Concord; ARNOLD P. MUELLER, Johnburg; EUGENE B. PERRY, Melvin.

To Camp Joseph E. Johnston, Jacksonville, Fla., as member of the tuberculosis examining board, from Williamsbridge, Capt. EDWIN S. GILLESPIE, Wenona.

To Camp Kelly, South San Antonio, Tex., for duty, from Mineola, Capt. EUGENE CARY, Chicago.

To Camp Lee, Petersburg, Va., base hospital, from Camp Meade, Lieut. EVERETT E. HOWARD, Rossville.

To Camp Sherman, Chillicothe, Ohio, base hospital, Lieut. HARRY N. CHAMBERLAIN, Chicago.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from Fort Oglethorpe, Lieut. ORVAN A. PHIPPS, Toledo.

To Camp Wheeler, Macon, Ga., base hospital, from Chicago, Lieut. HERMAN C. KOCH, Chicago.

To Cape May, N. J., for duty, Major HERBERT A. POTTS, Chicago.

To Chicago, Ill., Northwestern University School of Medicine, for instruction, from Camp Gordon, Lieut. OTTO H. SCHOTT, Chicago.

To Douglas, Ariz., for duty, from Fort Riley, Capt. JOHN A. BORTZ, Nauvoo.

To Fort Bliss, Texas, for temporary duty, from Philadelphia, Lieut. FRANK J. JIRKA, Chicago.

To Fort McPherson, Ga., base hospital, from Fort Oglethorpe, Capt. William W. HOYT, Chicago. For duty, from Fort Riley, Lieut. HAROLD SWANBERG, Chicago.

To Fort Oglethorpe for instruction, Lieuts. VIRGIL D. GREER, Chicago; JAMES S. ANTLE, Utica.

To Fort Riley, as division psychiatrist, from Camp MacArthur, Capt. ROMMEY M. RITCHEY, Elgin.

To Hoboken, N. J., for duty, from Army Medical School, Capt. VICTOR M. DALY, Pontiac; from Camp Dodge, Lieut. CARL F. LEWIS, Jerseyville. Base hospital, Lieut. HARTLEY F. MARS, Chicago; from Camp Grant, Lieut. CHARLES E. WEST, Decatur; from Fort Oglethorpe, Lieut. LOUIS A. MANGAN, Chicago; from Fort Riley, Lieuts. SIDNEY B. CONGER, HENRY C. WERNICKE, Chicago.

To Marbleton, Pa., for duty, from San Antonio, Capt. SAMUEL M. MARCUS, Chicago.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, from Fort Sill, Capt. DAVID R. SCOTT, Macomb.

To New York City, Hospital for Ruptured and Crippled, for instruction, from Philadelphia, Capt. PERCY P. HASLITT, Marshall.

To Portland, Ore., Yeon Building, for duty, from Memphis, Lieut. ROBERT B. MILLER, Rock Island.

To report to the commanding general, Philippine Department, for duty from Camp Custer, Lieut. ELMER O. DAHL, Chicago. *To report to the Governor of the Panama Canal* for duty, from Camp Zachary Taylor, Lieut. ALBERT F. RYAN, Chicago.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort Riley, Lieut. WILLIAM R. WHITLEY, Chicago.

To Waynesville, N. C., for duty, from Fort Riley, Capt. DANIEL W. YOUNG, Paris.

Honorably discharged, Capt. FRANK B. IRELAND, Washburn. On account of physical disability not incurred in the line of duty, Lieut. FRANKLIN B. PEARCE, Eldorado. On account of physical disability existing prior to entrance into the service, Lieut. LAWRENCE H. MARLEY, Nokomis.

Resignation of Lieut. CHRIS E. EMMERY, Chicago, accepted.

The following orders have been revoked: *To Camp Meigs*, Washington, D. C., for duty, from Camp Hancock, Lieut. CLINTON STALEY, Enfield. *To Camp Sheridan*, Montgomery, Ala., base hospital, from Fort Oglethorpe, Lieut. GEORGE E. ARZT, Chicago.

Indiana

To Army Medical School for instruction, and on completion *to Boston, Mass.*, Harvard Graduate School of Medicine, for further instruction, from San Antonio, Capt. WILLIAM C. MOSS, Bunker Hill.

To Camp Custer, Battle Creek, Mich., for duty, Lieut. ALBERT C. CLAUSER, Delphi.

To Camp Gordon, Atlanta, Ga., base hospital, from Army Medical School, Capt. MERTON A. FARLOW, Milroy.

To Camp Kearney, Linda Vista, Cal., as assistant to the camp surgeon, from Fort Riley, Lieut. ALFRED W. HADLEY, Jasonville.

To Camp Lee, Petersburg, Va., for duty, from Army Medical School, Lieut. PORTER W. HOPKINS, East Chicago.

To Camp Sevier, Greenville, S. C., for temporary duty, from Fort Oglethorpe, Lieut. WILLIAM C. MEYERS, Dava.

To Camp Zachary Taylor, Louisville, Ky., for duty, from Camp Zachary Taylor, Capt. HUBERT P. BUTTS, Pierceville.

To Camp McHenry, Md., for duty, from Camp Lee, Major ALFRED P. ROOPE, Columbus; from Fort Oglethorpe, Capt. JONES L. SAUNDERS, Newport.

To Fort Oglethorpe for instruction, Lieut. HAROLD J. PIERCE, Terre Haute.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieut. EARL M. KOONS, Indianapolis.

To Otisville, N. Y., for duty, from Camp Wadsworth, Capt. BENONI S. ROSE, Evansville.

To report by wire to the commanding general, Western Department, for assignment to duty, from Camp Kearny, Capt. JOHN E. METCALF, Gary.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort Oglethorpe, Major HORACE R. ALLEN, Indianapolis,

Iowa

To Camp Greene, Charlotte, N. C., base hospital, from Army Medical School, Lieut. FRED W. NIEHAUS, McClelland.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. JOHN I. MADDOX, Earlham; RALPH LOVELADY, Sidney.

To Fort Oglethorpe for instruction, Lieut. ISAAC H. ODELL, Des Moines.

To Mineola, L. I., N. Y., for temporary duty, and on completion *to his proper station*, Major EUGENE R. LEWIS, Dubuque.

To New Haven, Conn., for duty, from Camp Travis, Lieut. MILTON D. JEWELL, Decorah.

To Portland, Ore., Yeon Building, for duty, from Fort Omaha, Lieut. JOSEPH W. TYRRELL, Des Moines.

Resignation of Capt. LEO E. EVENS, Waterloo, accepted.

Kansas

To Camp Crane, Allentown, Pa., base hospital, from Camp Zachary Taylor, Lieut. GEORGE T. THACHER, Waterville.

To Camp Grant, Rockford, Ill., base hospital, from Fort Riley, Lieut. LEON MATASSARIN, Wichita.

To Kansas City, Mo., Sweeney Auto and the Rabe and Tractor Schools, to make physical examinations and give medical attention to the drafted men enrolled at these institutions, Capt. CLAY E. COBURN, Kansas City.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieuts. DAVID E. KISECKER, JOHN C. McKINNON, Caldwell.

The following order has been revoked: *To Army Medical School*, for instruction, Lieut. EARL C. LIGHTFOOT, Mineral.

Kentucky

To Camp A. A. Humphreys, Accotink, Va., as assistant to the camp surgeon, from Fort Riley, Lieut. ROBERT W. PORTER, Georgetown

To Camp Custer, Battle Creek, Mich., base hospital, from Fort Oglethorpe, Capt. HERBERT B. BLAYDES, La Grange.

To Camp Hancock, Augusta, Ga., as assistant to the camp surgeon, from Camp Zachary Taylor, Capt. LEE J. ERNSTBERGER, Louisville.

To Camp Pike, Little Rock, Ark., for duty, from Camp Joseph E. Johnston, Lieut. SAMUEL E. STANLEY, Louisville.

To Camp Travis, Fort Sam Houston, Texas, for duty, Capt. JOE L. BARKER, Pembroke; Lieut. SAMUEL T. SCRIVNER, Millers Creek.

To Camp Zachary Taylor, Louisville, Ky., base hospital, Lieut. CHARLES K. BELL, Louisville.

To Charleston, S. C., as assistant to the camp surgeon, from Camp Grant, Capt. GARLAND W. HILL, Springfield.

To Fort Oglethorpe for instruction, Capt. SAMUEL J. BAKER, Madisonville.

To Hoboken, N. J., for duty, from New Haven, Capt. ERWIN C. BRANDON, Springfield.

To report to the Governor of the Panama Canal, for duty, from Camp Raritan, Capt. DELFRERS P. CURRY, Ja., Bowling Green, from Camp Pike, JAMES A. GRIDER, Smith's Grove.

The following orders have been revoked: *To Army Medical School*, for duty, from Rockefeller Institute, Lieut. FERDINAND H. HAESSLER, Louisville; *to Camp Dix*, Wrightstown, N. J., base hospital, from Camp Shelby, Capt. JOHN T. PRICE, Harrodsburg.

Louisiana

To Camp Devens, Ayer, Mass., for temporary duty, from Fort Oglethorpe, Capt. JOHN McKOWEN, Baton Rouge.

To Camp Forrest, Chickamauga Park, Ga., for duty, Lieut. GEORGE A. RAMSEY, Farmerville.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. LIONEL F. LORIO, Glynn; LUCIEN A. LEDOUX, New Orleans.

To Fort Adams, R. I., for duty, and on completion *to Army Medical School* for instruction, from Plattsburg Barracks, Lieut. ABRAHAM MATTES, New Orleans.

To Fort Oglethorpe for instruction, Lieut. REYNOLD C. VOSS, New Orleans.

To Hoboken, N. J., base hospital, from Fort Riley, Major JAMES B. GUTHRIE, New Orleans. For duty, from Army Medical School, Capt. RALPH HOPKINS, New Orleans.

To Portland, Ore., Yeon Building, for duty, from Lake Charles, La., Lieut. MICHEL F. MORVANT, Jeanerette.

Resignation of Lieut. EDWIN C. SIMONTON, Jonesboro, accepted.

Maine

To Camp Crowe, Allentown, Pa., base hospital, from Camp Devens, Lieut. HAROLD E. E. STEVENS, Lewiston.

To Camp Laurel, Laurel, Md., for duty, from Fort Oglethorpe, Lieut. DE FOREST WEEKS, Portland.

To Hoboken, N. J., for duty, from Camp Dix, Lieut. CARL D. GRAY, Portland.

To report by wire to the commanding general, Northeastern Department, for assignment to duty, Lieut. ALBERT L. STANWOOD, Andover.

Maryland

To Army Medical School for instruction, from Camp MacArthur, Lieut. GEORGE H. PRESTON, Baltimore.

To Camp Gordon, Atlanta, Ga., for duty, from Camp Lee, Lieut. WILLIAM R. GERAGHTY, Baltimore.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. DAVIS N. RICHARDS, Germantown.

To Fort McHenry, Md., for observation and treatment, Capt. ALGERNON D. ATKINSON, Baltimore.

To Fort Sam Houston, Texas, Department Laboratory, for duty, from Army Medical School, Lieut. CHURCHILL F. WORRELL, Baltimore.

To Hoboken, N. J., base hospital, Lieut. JOHN R. DAVEE, Baltimore.

To New Haven, Conn., for duty, Lieut. SAMUEL SNYDER, State Tuberculosis Sanatorium.

To New York City, Neurological Institute, for instruction, Lieut. GEORGE L. LAVERTY, Roland Park.

To Philadelphia, Pa., University Hospital, for instruction, and on completion *to his proper station*, from Camp Meade, Lieut. CLAUDE C. KELLY, Baltimore.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty, Lieut. LOUIS A. M. KRAUSE, Baltimore.

To Washington, D. C., for temporary duty in the Surgeon-General's Office, from Camp Dix, Lieut. NOLAN D. C. LEWIS, Crownsville.

Massachusetts

To Americus, Ga., Signal Corps Aviation School, for duty, from Wichita Falls, Lieut. WILLIAM P. MacKNIGHT, Fall River.

To Army Medical School for instruction, and on completion *to Boston, Mass.*, Harvard Graduate School of Medicine, for instruction, from Fort Oglethorpe, Lieuts. ELIE J. LALIBERTE, Fall River; HERBERT W. ELLAM, Gardner.

To Baltimore, Md., for instruction, from Camp Dodge, Capt. ANDREW W. SELLARS, Boston.

To Boston, Mass., Harvard Graduate School of Medicine, for instruction, Lieut. NORMAN W. GILLESPIE, Dorchester.

To Camp A. A. Humphreys, Accotink, Va., for temporary duty, from Fort Riley, Lieut. FRANK B. BERRY, Cambridge.

To Camp Devens, Ayer, Mass., for conference, and on completion *to Lakewood, N. J.*, for consultation, and on completion *to his proper station*, Major KENDALL EMERSON, Worcester.

To Camp Dix, Wrightstown, N. J., base hospital, from Camp Devens, Capt. WILLIAM K. S. THOMAS, Cambridge; from Camp Meade, Lieut. WARREN S. SHIELDS, Boston.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. NATHAN A. BOLOTOW, Boston; from Hoboken, Lieut. NICHOLAS A. GALLAGHER, Malden.

To Camp Hancock, Augusta, Ga., as orthopedic surgeon, from Philadelphia, Lieut. FRANK W. HODGDEN, Jr., Boston. Base hospital, Lieut. Paul C. DENNETT, Allston; from Fort Slocum, Capt. ALFRED P. CHRONQUEST, Hathorne.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Capt. ARTHUR J. AKERLEY, Boston. Base hospital, from Rockefeller Institute, Lieut. JAMES H. PARK, Jr., Boston.

To Camp Lee, Petersburg, Va., for temporary duty, from Fort Oglethorpe, Lieut. RICHARD M. ASH, West Quincy.

To Camp MacArthur, Waco, Texas, as orthopedic surgeon, from Philadelphia, Lieut. ARTHUR L. BRUNELLE, New Bedford. With the board examining the command for nervous and mental diseases, from Camp Dodge, Lieut. WALTER A. JILLSON, Westborough.

To Camp Upton, L. I., N. Y., to examine the command for nervous and mental diseases, from Camp Dix, Major GEORGE E. McPHERSON, Medfield.

To Fort Adams, R. I., for duty, Capt. WINSOR H. TYLER, Lexington.

To Fort Oglethorpe as instructor in military roentgenology, from Fort Riley, Major ARIAL W. GEORGE, Boston. For instruction, Lieut. HUBERT N. ENGLISH, Boston.

To Hoboken, N. J., for duty, from Camp Jackson, Capts. BRONSON CROTHERS, Cambridge; DONALD MACOMBER, Newton.

To New Orleans, for duty, from Fort Oglethorpe, Capt. NATHANIEL K. NOYES, Duxbury.

To Richmond, Va., for duty, from Aberdeen, Md., Major ARTHUR H. CROSBIE, Boston.

To West Point, Miss., for duty, from Camp Greene, Lieut. ALFRED J. BONNEVILLE, Hatfield.

The following orders have been revoked: *To Camp Hancock*, Augusta, Ga., with the board examining the troops for cardiovascular diseases, from Fort Oglethorpe, Lieut. HARRY A. WALKER, Somerville. *To Camp Jackson*, Columbia, S. C., for duty, Lieut. FREDERICK A. MEADE, Williamsett.

Michigan

To Aberdeen, Md., for duty, from Edgewood, Capt. THOMAS B. HENRY, Northville.

To Boston, Mass., Harvard Graduate School of Medicine, for instruction, from Camp Devens, Lieut. HEROLD F. OBRT, Detroit.

To Camp Beauregard, Alexandria, La., for duty, Lieut. LYLE B. KINGERY, Ann Arbor.

To Camp Custer, Battle Creek, Mich., base hospital, Lieut. CLARK C. PIPER, Detroit. For duty, Lieuts. ARTHUR J. NUMANN, ARTHUR W. NEWITT, Detroit.

To Camp Dix, Wrightstown, N. H., as assistant to the camp surgeon, from Williamsbridge, Major WILLARD H. HUTCHINGS, Detroit.

To Camp Jackson, Columbia, S. C., for duty, Lieut. SPENCER DeW. GUY, Benton Harbor; from Camp Beauregard, Capt. JACK R. BOLASNY, Detroit.

To Camp MacArthur, Waco, Texas, with the board examining the command for nervous and mental diseases, from San Antonia, Lieut. NICHOLSON W. PINTO, Kalamazoo.

To Camp Meade, Annapolis Junction, Md., for duty, from Camp Jackson, Capt. HENRY J. MEYER, Saginaw.

To Fort Oglethorpe for instruction, from Camp Hancock, Lieut. LELAND H. TOWER, Battle Creek.

To Hoboken, N. J., base hospital, from Fort Oglethorpe, Lieut. THOMAS M. KANE, Ja., Lansing.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieut. CARL N. LARSEN, Detroit.

To Pittsburgh, Pa., Carnegie Building, for instruction, and on completion *to his proper station*, from Camp Shelby, Capt. BURT F. GREEN, Hilladale.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. NELSON M. LAUGHLIN, Lake Odessa.

The following orders have been revoked: *To Fort Riley* for instruction, Capt. LOUIS BARTH, Grand Rapids. *To Pittsburgh, Pa.*, Carnegie Building, for instruction, and on completion *to his proper station*, from Camp Sherman, Lieut. WORTH W. WALTON, Mancelona.

Minnesota

To Camp Greene, Charlotte, N. C., base hospital, from Fort Riley, Lieut. JOSEPH C. MICHAEL, St. Paul.

To Camp Laurel, Laurel, Md., for duty from Camp Grant, Lieut. WILLIAM F. MAERTZ, New Prague.

To Camp Riley, Petersburg, Va., as orthopedic surgeon, from Chicago, Lieut. JOHN A. SAARI, Eveleth. As assistant to camp surgeon, from Fort Riley, Lieut. JAMES R. McVAY, Rochester.

To Camp Lewis, American Lake, Wash., base hospital, from Camp Shelby, Capt. THOMAS G. CLEMENT, Vernon Center.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Lieut. MILLARD F. SMITH, St. Paul.

To Camp Pike, Little Rock, Ark., as assistant to the camp surgeon, from Fort Riley, Lieut. JOSEPH MOSES, Ja., Northfield.

To Camp Sevier, Greenville, S. C., base hospital, Capt. BYRON A. KAMP, Albert Lea. As orthopedic surgeon, from Chicago, Lieut. CARL PAULSON, Minneapolis.

To Fort Oglethorpe for instruction, from Memphis, Lieut. GROVER C. BLACK, Minneapolis.

To Fort Riley, hospital train, from Pullman, Lieut. PETER C. BJORNSBY, Bagley.

To Mineola, L. I., N. Y., for duty, Lieut. PAUL B. GILLESPIE, Minneapolis.

To New Haven, Conn., for duty, from Fort Riley, Lieut. LEE W. POLLOCK, Rochester.

To report to the commanding general, Philippine Department, for duty, from Camp Lucero, Capt. RALPH J. SEWALL, Crosby.

To Rochester, Minn., Mayo Clinic, as instructor, from Washington, Major CHARLES H. MAYO, Rochester.

The following order has been revoked: *To Hoboken, N. J.*, for duty, from Fort Riley, Lieut. JOSEPH C. MICHAEL, St. Paul.

Mississippi

To Camp Lee, Petersburg, Va., base hospital, from Camp Meade, Lieut. LEONIDAS F. BARRIER, Greenwood.

To Hoboken, N. J., for duty, from Army Medical School, Lieut. THOMAS A. STRAIN, Meridian; JAMES H. SLAUGHTER, Plattsburg.

To Portland, Ore., Yeon Building, for duty, from Lake Charles, La., Lieut. BARTON J. FARR, Holcomb.

Missouri

To Army Medical School for instruction, from Camp MacArthur, Lieut. JOHN H. MURPHY, St. Louis; from Hoboken, Lieut. SIDNEY J. WOLFERMANN, St. Louis.

To Camp Crowe, Allentown, Pa., for duty, from Cleveland, Lieut. EUGENE A. SCHAEFER, St. Louis.

To Camp Gordon, Atlanta, Ga., for duty, from Fort Oglethorpe, Capt. CHARLES A. VOSBURGH, St. Louis.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Camp Fremont, Cal., Lieut. O. BAERENS, St. Louis.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. ARTHUR J. SMITH, Boonville; JESSE MADDOX, Moberly; FLORIEN VAUGHN, Shelbina.

To Camp Zachary Taylor, Louisville, Ky., base hospital, Lieut. PAT RICK McGENNIS, St. Louis.

To Douglas, Ariz., for duty, from Camp Travis, Capt. JOSEPH C. HYNES, St. Louis.

To Fort Des Moines, Iowa, for temporary duty, from Fort Oglethorpe, Lieut. CHARLES F. DAVIS, Ja., Kansas City.

To Fort Oglethorpe for instruction, from Dallas, Lieut. CHARLES D. MENEFEE, Perry.

To Kansas City, Mo., Sweeney Auto School and the Rahe and Tractor School, make physical examinations and give medical attention to the drafted men to be enrolled at these institutions, Lieut. WILLIAM G. THOMPSON, Holden.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Capt. ANDREW W. McALESTER, Kansas City.

To New York City, Hospital for Ruptured and Crippled, for instruction, from Chicago, Capt. LUTHER O. NICKELL, Macon.

To Philadelphia, Pa., University Hospital, for instruction, and on completion *to Camp Wadsworth*, Spartanburg, S. C., base hospital from Rockefeller Institute, Capt. W. T. ELLAM, St. Joseph.

To Portland, Ore., Yeon Building, for duty, from Lake Charles, La., Capt. NORVALL W. SHARPE, St. Louis; from Camp Dick, Lieut. ELIJAH A. COLLEY, St. Joseph; from Lonoke, Lieut. ALFRED L. WESSLING, Martinsville.

To report to the commanding general, Philippine Department, for duty, from Jefferson Barracks, Capt. MARC R. HUGHES, St. Louis; from Fort Riley, Lieut. LEVI S. LONG, St. Joseph.

To Rockefeller Institute for instruction in laboratory work, and on completion *to St. Louis, Mo.*, Washington University, for duty, from Washington, D. C., Major EUGENE L. OPIE, St. Louis.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, from Camp Greene, Capt. CHARLES H. HECKER, St. Louis.

Montana

To Camp Gordon, Atlanta, Ga., for duty, Capt. ALOYSIUS N. J. DOLAN, Great Falls.

To Fort Ontario, N. Y., for temporary duty, from Fort Riley, Lieut. JULIO R. SOLTERO, Belgrade.

To Fort Riley for instruction, Lieut. CHARLES A. GARDNER, Columbus.

To San Francisco, Calif., for instruction, and on completion *to Camp Kearny*, Linda Vista, Calif., base hospital, Lieut. JOHN L. TREACY, Helena.

Nebraska

To Camp Dodge, Des Moines, Iowa, as orthopedic surgeon, from Fort Riley, Capt. HOMER DAVIS, Genoa.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Camp Grant, Capt. JOHN BUIS, Pender.

To Camp Travis, Fort Sam Houston, Texas, for duty, Capt. WILLIAM J. DOUGLAS, Atkinson; Lieut. LOUIS N. SMERNOFF, Omaha.

To Douglas, Ariz., for duty, from Fort Riley, Lieut. THOMAS LAHNERS, Belvidere.

To Fort D. A. Russell, Wyo., for duty, Lieut. OSCAR P. SCHNETAZY, Schuyler.

To Fort Des Moines, Iowa, base hospital, from Fort Riley, Major JOHN F. LORD, Omaha.

To Fort Slocum, N. Y., for duty, from Army Medical School, Lieut. GUY S. PHILBRICK, Omaha.

To Hoboken, N. J., base hospital, from Camp Shelby, Capt. JOHN C. MOORE, Omaha.

To Portland, Ore., Yeon Building, for duty, from Fairfield, Ohio, Lieut. FRANK W. SCOTT, Lodge Pole; from Fort Omaha, Lieut. WILLIAM E. MOGAN, Petersburg.

Honorably discharged, Capt. HARRY M. BONNIWELL, Lincoln.

Nevada

To Camp Crane, Allentown, Pa., base hospital, from Camp Shelby, Capt. WILLIAM CIRCE, Carson.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. DAVID W. BEDINGER, Ruth.

New Hampshire

To Boston, Mass., for orthopedic instruction, and on completion *to his proper station*, Major KENDALL EMERSON, Worcester.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. HILLARD C. CLARK, Bethlehem.

To Camp Pike, Little Rock, Ark., with the board examining the command for nervous and mental diseases, from Camp Meade, Capt. LEE C. STILLINGS, Alstead.

To Newport News, Va., for duty, Capt. WALTER A. ALLEN, Hamstead.

New Jersey

To Camp Crane, Allentown, Pa., base hospital, from Hampton, Lieut. HUGH S. CHIDESTER, Hoboken.

To Camp Dix, Wrightstown, N. J., for duty, Capt. HENRY COGAN, Paterson.

To Camp Jackson, Columbia, S. C., for duty, Lieut. EARLE R. DAVIS, Haddon Heights.

To Camp Meade, Annapolis Junction, Md., as orthopedic surgeon, from Fort Oglethorpe, Major HAROLD D. CORBUSIER, Plainfield.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from Army Medical School, Lieut. LOUIS C. ROSENBERG, Newark.

To Hoboken, N. J., base hospital, Capt. HARRY C. REYNOLDS, Passaic; Lieut. JESSE R. PATTON, Long Branch.

To New Haven, Conn., for duty, Lieut. SAMUEL BARISHAW, Jersey City.

To Otisville, N. Y., for duty, from Camp Dix, Lieut. ALONZO W. LITTLE, Jersey City.

To report to the commanding general, Philippine Department, for duty, from Camp Custer, Lieut. IRWIN MARKOWITZ, Jersey City.

New Mexico

To Fort Oglethorpe for instruction, from Fort Riley, Lieut. NATHANIEL D. FRAZIN, Tyrone.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. ANTHONY E. LANKFORD, Dedman.

New York

To Army Medical School for instruction, from Camp Meade, Lieut. FREDERIC DAMRAU, Brooklyn. On completion *to Boston*, Harvard Graduate School of Medicine, for instruction, from Fort Oglethorpe, Lieut. LOUIS F. CRASSON, Brooklyn.

To Boston, Mass., for duty, Capt. JOSEPH RAPHAEL, Brooklyn.

To Buffalo, N. Y., and *Toronto, Can.*, for duty, and on completion *to his proper station*, Major RICHARD H. HUTCHINGS, Ogdensburg.

To Camp A. A. Humphreys, Accotink, Va., for duty, from Fort Oglethorpe, Lieuts. DAVID PASHMAN, New York; CHARLES RIEGER, Staten Island. To examine members of the command for tuberculosis, and on completion *to his proper station*, from Camp Meade, Lieut. ALEXANDER ALTSCHUL, New York.

To Camp Crane, Allentown, Pa., for duty, from Walter Reed General Hospital, Capt. SAMUEL STEWART, Syracuse; from Cleveland, Lieut. DONOLD E. BRACE, New York City. Base hospital, from Camp Lee, Lieut. ABRAHAM SHORR, Brooklyn.

To Camp Custer, Battle Creek, Mich., base hospital, Lieut. CHARLES W. DUNN, Jersey City.

To Camp Dix, Wrightstown, N. J., for duty, Capt. SAMUEL A. BUCHENHOLZ, New York. With the board examining the command for nervous and mental diseases, Capt. JOHN S. RICHARDS, Randall Island.

To Camp Gordon, Atlanta, Ga., for duty, Lieuts. RICHARD M. FIELD; MAX REMICOFF, Brooklyn; CHARLES J. BARONE, JOSEPH J. ZIMMERMAN, Buffalo; WILLIAM A. MacPHERSON, LeRoy; WALDO B. FARNUM, New York; DARRY H. PATRIE, Red Hook from Camp Devens, Lieut. FRANK TANNEBAUM, New York; from Camp Grant, Lieut. DANIEL B. LYNCH, New York; from Fort McHenry, Lieut. RUSSELL C. PARSONS, Brooklyn.

To Camp Greene, Charlotte, N. C., for duty, from Garden City, Major ATTILIO M. CACCINI, New York.

To Camp Hancock, Augusta, Ga., with the board examining the troops for cardiovascular diseases, from Fort Oglethorpe, Lieut. DANIEL J. SWAN, Flushing.

To Camp Jackson, Columbia, S. C., as a member of the tuberculosis examining board, from Camp A. A. Humphreys, Lieut. WILLIAM B. EBELING, Brooklyn. Base hospital, Capt. DENIS A. MacAULIFFE, New York; from New York City, Lieut. FRANK G. WALZ, Buffalo. For duty, Lieuts. DAVID NEWMAN, Bronx; AARON ROTH, Brooklyn. With the board examining the command for nervous and mental diseases, Lieut. HOMER I. REXFORD, Willard; from Newport News, Lieut. HOWARD W. DAVIS, Poughkeepsie.

To Camp Lee, Petersburg, Va., as camp psychiatrist, from Camp A. A. Humphreys, Major ARTHUR S. MOORE, Middleton. For duty, from Fort Oglethorpe, Lieut. BYRON E. CHAPMAN, Albany.

To Camp MacArthur, Waco, Texas, with the board examining the command for nervous and mental diseases, from Camp Pike, Capt. JOHN MILLER, New York.

To Camp McClellan, Anniston, Ala., base hospital, from Philadelphia, Lieut. RUSSELL PEMBERTON, New York.

To Camp Meade, Annapolis Junction, Md., for duty, from Camp Beauregard, Lieut. WILLIAM GOLSTEIN, New York. With the board examining the command for nervous and mental diseases, from Fort McHenry, Lieut. FREDERICK P. SCHENKELBERGER, Gowanda.

To Camp Pike, Little Rock, Ark., base hospital, from Camp Custer, Capt. LEWIS H. TAFT, New York.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. DANIEL V. CATALANC, Staten Island.

To Camp Sherman, Chillicothe, Ohio, as member of the tuberculosis examining board, from Camp A. A. Humphreys, Capt. EDWARD P. EGLES, New York.

To Camp Wadsworth, Spartanburg, S. C., base hospital, Capt. WILLIAM F. PLUMLEY, Rochester.

To Camp Wheeler, Macon, Ga., base hospital, Lieut. GEORGE W. WHEELER, New York. For duty, from Fort Oglethorpe, Lieuts. SAMUEL J. BLUMENTHAL, Brooklyn; MAX I. ORVEN, New York.

To Cleveland, Ohio, Lakeside Hospital, for instruction, from Fort Ontario, Lieut. DONALD E. BRACE, New York.

To Colonia, N. Y., for temporary duty, from Fort Oglethorpe, Major FRED H. ALBEE, New York.

To Fort Leavenworth, Kan., for duty, from Camp Gordon, Lieut. HAROLD R. ROBERT, Dannemore.

To Fort McHenry, Md., base hospital, Lieut. JUNIUS W. STEPHENSON, New York.

To Fort McPherson, Ga., for duty, from Camp Hancock, Lieut. HUGH M. BULLARD, Brooklyn.

To Fort Oglethorpe, for duty, from Pullman, Lieut. ADFUR F. MAINES, New York. For instruction, Lieuts. RUDOLPH H. RUEDEMANN, Albany; LOUIS F. SARMANN, New York.

To Fort Sam Houston, Texas, Department Laboratory, from Army Medical School, Lieut. RALPH P. CREECHBERG, Corning.

To Hoboken, N. J., base hospital, from New York City, Capt. MILES W. JOHNS, Utica; Lieut. MILTON L. STRAHL, Brooklyn; from Fort Oglethorpe, Lieut. STANLEY E. ALDERSON, Albany. For duty, from Fort Slocum, Capt. CHARLES ROACH, New York; from Army Medical School, Lieuts. DAVID M. GARDNER, Benson Mines; NATHAN WEINBERG, Brooklyn; GEORGE P. OLCOTT, New York.

To Lonoke, Ark., Signal Corps Aviation School, for duty, from Rantoul, Capt. SAMUEL M. STRONG, New York.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieuts. PHILIP E. BERNSTEIN, Brooklyn; SAMUEL Z. ORGEL, New York; WILLIAM E. GAZE, Schenectady; from New York City, Lieut. DAVID E. STOWELL, New York.

To New Haven, Conn., for duty, from Army Medical School, Capt. EWING TAYLOR, New York; from Camp Devens, Lieut. EDWIN F. SAMPSON, New York; Yale University, for duty, from Camp American University, Capt. JEAN R. OLIVER, New York.

To Newport News, Va., for duty, Lieuts. PHILIP B. BREGMAN, Bronx; MORRIS STAHL, Brooklyn; JULIUS R. ALMER, JAMES B. MILLER, EDWARD R. WARE, New York.

To New York City, Hospital for Ruptured and Crippled, for instruction, from Philadelphia, Lieut. JULIUS T. COHEN, Buffalo.

To Plattsburg Barracks, N. Y., for duty, from Camp Upton, Major AARON J. ROSANOFF, Kings Park.

To Princeton, N. J., for conference, and on completion *to his proper station*, from Camp Meade, Major EDWARD K. DUNHAM, Capt. RALPH A. KINSELLA, New York; from Rockefeller Institute, Major ALPHONSE R. DOCHEZ, New York.

To report to the commanding general, Philippine Department, for duty, from Fort Oglethorpe, Capt. HAROLD L. LEVY, New York.

To Rockefeller Institute for duty, and on completion *to Washington, D. C.*, Major CARROLL G. BULL, New York. For instruction in laboratory work, Capt. FRANK G. SCHAIBLE, New York. For instruction in the treatment of infected wounds, and on completion *to Camp Greene*, Charlotte, N. C., base hospital, Capt. BURDGE P. MacLEAN, Jr., Huntington.

To Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment, from Edgewood, Capt. FREDERICK W. FILSINGER, Buffalo.

To Washington, D. C., for consultation, and on completion *to his proper station*, from New York, Lieut. HENRY W. HAYNES, New York.

To Waynesville, N. C., for observation and treatment, from Fort Screven, Capt. SPENCER FRANKLIN, New York.

The following orders have been revoked: *To Fort Oglethorpe* for instruction, Lieut. MORRIS H. NEWTON, Ilion. *To Hoboken, N. J.*, for duty, Lieut. OSCAR G. FINKLE, New York. *To Pittsburgh, Pa.*, Carnegie Institute, for instruction, and on completion *to proper stations*, from Camp Sherman, Capts. FREDERICK J. PFIESTERER, Ceres; MILTON G. BURCH, Hornell; LEWELL T. GENUNG, Worcester.

North Carolina

To Camp Bowie, Fort Worth, Texas, as orthopedic surgeon, from Philadelphia, Lieut. FRANCIS W. CARRUTHERS, Hillsboro.

To Camp Gordon, Atlanta, Ga., for duty, from Camp Wadsworth, Lieut. ADLAI S. OLIVER, Greensboro.

To Camp Hancock, Augusta, Ga., as orthopedic surgeon, from Philadelphia, Lieut. WILLIAM MONCURE, Jr., Hamlet.

To Fort McPherson, Ga., base hospital, from Camp Beauregard, Lieut. HUGH E. AVERY, Rock Mount; from Camp Bowie, Capt. HERBERT H. OGBURN Greensboro; from Camp Hancock, Capt. JACOB H. SHUFORD, Hickory, from Camp McClellan, Capt. ARTHUR T. PRITCHARD, Asheville; Lieut. ANZI J. ELLINGTON, Raleigh; from Camp Sevier, Lieut. MILTON T. EDGERTON, Jr., Greenville; from Camp Wadsworth, Lieuts. LEWIS M. GRIFFITH, Asheville; JOHN E. WINE, Wilmington; from Fort Oglethorpe, Major MARSHALL H. FLETCHER, Lieuts. LOUIS G. BEALL, Asheville; EDWARD C. ASHBY, Greensboro; THOMAS M. STANTON, High Point; ALVIN C. McCALL, Rocky Mount; SAM W. HURDLE, Spray; JAMES F. ROBERTSON, Jr., Wilmington.

To Fort Oglethorpe for instruction, Capt. CHARLES E. WOODING, Winston-Salem.

To Hoboken, N. J., for duty, from Army Medical School, Lieut. HENRY B. MAXWELL, Whiteville.

To report by wire to the commanding general, Southeastern Department, for assignment to duty, Lieut. JOHN A. BECK, Gloucester City.

To Rockefeller Institute for instruction in bacteriology, Lieut. FRANK C. HODGES, Greenville.

Honorably discharged, Lieut. THURMAN G. WRIGHT, Elizabeth City.

North Dakota

To Camp Gordon, Atlanta, Ga., for duty, Lieut. WALTER D. BAYARD, Fargo.

To Camp Jackson, Columbia, S. C., for duty, from Fort Oglethorpe, Lieut. JOHN A. JOHNSON, Jr., Grand Forks.

Ohio

To Army Medical School for instruction, from Fort McPherson, Lieut. WALTER S. BENNETT, Cardington.

To Camp A. A. Humphreys, Accotink, Va., base hospital, from Walter Reed General Hospital, Major FRANK WINDERS, Columbus.

As orthopedic surgeon, and on completion *to his proper station*, from Army Medical School, Capt. ELMER A. KLEIN, Norwood.

To Camp Cody, Deming, N. M., as orthopedic surgeon, from Philadelphia, Lieut. RUDOLPH S. REICH, Cleveland.

To Camp Crane, Allentown, Pa., for duty, from Cleveland, Capt. HENRY K. YAGGI, Salem; Lieut. JOHN A. MELLON, Columbiana.

To Camp Fremont, Palo Alto, Calif., base hospital, from Fort Riley, Capt. ALBIN M. PAINTER, Youngstown.

To Camp Gordon, Atlanta, Ga., for duty, Lieuts. JOHN R. WARREN, Lower Salem; CLIFFORD G. SMITH, Marion; from Camp McClellan, Lieut. THOMAS H. BROWN, Toledo.

To Camp Jackson, Columbia, S. C., for duty, from Camp Lee, Lieut. MILTON B. COHEN, West Salem.

To Camp Laurel, Laurel, Md., for duty, from Hoboken, Major WILLIAM W. CONGER, Toledo.

To Camp Pike, Little Rock, Ark., for duty, Lieut. LEROY S. HENNY, Leesville, from Fort McPherson, Lieut. WILLIAM L. LAYPORT, Cincinnati.

To Camp Sevier, Greenville, S. C., base hospital, from Ann Arbor, Lieut. JAMES McC. McGEORGE, Salem.

To Fort McPherson, Ga., base hospital, from Camp Shelby, Capt. HARRY S. NOBLE, St. Mary's; from Fort Oglethorpe, Capt. SIDNEY D. FOSTER, Toledo.

To Fort Oglethorpe for instruction, Lieut. EDWIN E. SHEFFIELD, Elyria.

To Hoboken, N. J., for duty, from Army Medical School, Lieut. JAMES G. SMAILES, Coshocton.

To Orono, Me., University of Maine, to make physical examinations and give medical attention to the drafted men enrolled at that institution, and on completion *to his proper station*, from Camp Devens, Lieut. EDWARD REMY, Jr., Mansfield.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. EDGAR D. ALLEN, Crooksville.

To report by wire to the commanding general, Central Department, for assignment to duty, Capt. JOHN L. TRAVIS, Germantown.

To Rockefeller Institute for instruction in laboratory work, Lieut. ROLL H. MARKWITH, Columbus. On completion *to Washington, D. C.*, for duty, Lieut. ROBERT B. STEVENSON, Columbus.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, Capt. ALBERT G. FREIBERG, Cincinnati; from Camp Jackson, Lieut. GEORGE B. BOOTH, Toledo.

The following orders have been revoked: *To Pittsburgh, Pa.*, Carnegie Building, for instruction, and on completion *to their proper stations* from Camp Sherman, Capt. VICTOR BIDDLE, Stubenville; Lieut. CHARLES S. JACKSON, Edison.

Oklahoma

To Camp Beauregard, Alexandria, La., base hospital, Lieut. CHARLES B. TAYLOR, Oklahoma City.

To Camp Jackson, Columbia, S. C., for duty, from Camp Dix, Lieut. EARL F. VANDEVER, Laboma.

To Camp Laurel, Laurel, Md., for duty, from Camp Grant, Lieut. CECIL B. SHROUT, Shawnee.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. LLOYD M. SACKETT, Oklahoma City.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. POWELL L. HAYS, Vinita.

To Fort Oglethorpe for instruction, Lieut. FRANK THOMASON, Drumright.

To Fort Sam Houston, Texas, for temporary duty, from Camp MacArthur, Lieut. JOHN A. WALKER, Shawnee.

To Hoboken, N. J., for duty, from Army Medical School, Lieut. ELIJAH S. SULLIVAN, Oklahoma City.

To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. WALTER M. SYKES, Ramona; from Fort Sill, Lieuts. ELMER E. HEADY, Buffalo; JAMES W. WHEELER, Gracemont; ROBERT L. BAKER, Wynnewood; from Houston, Lieut. GEORGE B. COKER, Cyril; from Memphis, Lieut. WILLIAM C. FASHEE, Grandfield.

To report to the commanding general, Philippine Department, for duty, from Chicago, Capt. FANTON M. SANGER, Oklahoma City.

Oregon

To Army Medical School for instruction, Lieut. GUY C. MILNOR, Portland.

To Fort Oglethorpe for instruction, from Fort Riley, Lieuts. FRANK E. BUTLER, Hot Lake; JULIUS H. GARNJOBST, Salem.

To Hoboken, N. J., base hospital, from Camp Lewis, Capt. OTIS B. WIGHT, Portland.

To Newport News, Va., as orthopedic surgeon, from Philadelphia, Capt. EDGAR H. BROWN, McMinnville.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. FRANK C. HART, Portland.

Pennsylvania

To Americus, Ga., Signal Corps Aviation School, for duty, from Camp Greene, Major WALTER S. CORNELL, Philadelphia.

To Army Medical School for instruction, from Camp Sherman, Lieut. LAWRENCE H. FITZGERALD, Pittsburgh. On completion to Boston, Mass., Harvard Graduate School of Medicine, for instruction, from Camp Gordon, Lieut. WILLIAM C. ELY, Philadelphia.

To Baltimore, Md., Johns Hopkins University, for duty, and on completion *to his proper station*, from Cape May, Major CHARLES H. FRAZIER, Philadelphia.

To Boston, Mass., for duty, Lieuts. GEORGE A. PARKER, Pottsville; WILLIAM L. CRAWFORD, Dillsburg.

To Buffalo, N. Y., for duty, from Walter Reed General Hospital, Capt. WILLIAM P. McINTOSH, Philadelphia.

To Camp A. A. Humphreys, Accotink, Va., base hospital, and on completion *to Army Medical School*, for instruction, from Army Medical School, Lieut. ROBERT D. SPENCER, Philadelphia. For duty, from Fort Andrews, Lieut. WALTER L. LYNN, Wilkes Barre.

To Camp American University, Washington, D. C., for duty, from Camp Sevier, Capt. JOSEPH LEIDY, Philadelphia.

To Camp Crane, Allentown, Pa., base hospital, from Camp Grant, Lieut. EUGENE C. MURPHY, Philadelphia; from Cleveland, Lieut. CHARLES D. BIERER, Uniontown.

To Camp Dix, Wrightstown, N. J., base hospital, Major ALLEN JOHN SMITH, Philadelphia; Lieut. FLOYD D. LOHR, Bradenville. With the board examining the command for nervous and mental diseases, Lieut. JOSEPH P. BOYLE, Lansford.

To Camp Gordon, Atlanta, Ga., for duty, Lieuts. ALBERT V. CROSBY, Abington; WILLIAM T. MARTIN, Pelzer; WILLIAM H. HAUCK, Philadelphia; from Camp Greene, Capt. WILLIAM P. CLANCY, Clarendin; from Camp Meade, Lieut. ROBERT McR. BIDDLE, Ashland; from Williamsbridge, Lieut. CLAUDE L. BRADFORD, Pittsburgh.

To Camp Greene, Charlotte, N. C., base hospital, from Philadelphia, Capt. WALTER B. HARVEY, Pittsburgh. For duty, Lieut. CHARLES O. PETERS, Albion.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. DANIEL W. FRYE, Pittsburgh.

To Camp Jackson, Columbia, S. C., base hospital, from Philadelphia, Capt. CLEMENT R. BOWEN, Philadelphia. For duty, Lieut. PAUL S. SEABOLD, Philadelphia. With the board examining the command for nervous and mental diseases, Lieut. WILLIAM C. MILLER, Warren; from Camp Hancock, Lieut. WILLIAM M. DONOVAN, Philadelphia.

To Camp Las Casas, San Juan, Porto Rico for duty, Lieut. RAMON J. SIFRE, Philadelphia.

To Camp Leach, Washington, D. C., for duty, Lieut. HIRAM G. STRAUB, Minersville.

To Camp Lee, Petersburg, Va., base hospital, from Camp Wadsworth, Capt. CLARK N. YEAGER, Wilkes-Barre.

To Camp Logan, Houston, Texas, base hospital, from Camp Gordon, Major LINNAEUS H. PRINCE, Philadelphia.

To Camp Meade, Annapolis Junction, Md., base hospital, Capt. HARRY H. LOTT, Philadelphia. For duty, from Army Medical School, Capt. JAMES CHANAN, Strickersville; Lieut. LAWRENCE L. BLACKBURN, Philadelphia.

To Camp Sevier, Greenville, S. C., base hospital, Major GEORGE FETTEROLF, Philadelphia.

To Camp Upton, L. I., N. Y., with the board examining the command for nervous and mental diseases, Lieut. EDGAR M. BLEW, Allentown.

To Camp Wadsworth, Spartanburg, S. C., for duty, Capt. ALBERT C. LAMADE, Williamsport.

To Camp Wheeler, Macon, Ga., for temporary duty, from Fort Oglethorpe, Lieut. JOHN M. CONNOLLY, Philadelphia.

To Camp Zachary Taylor, Louisville, Ky., as orthipedic surgeon, from Philadelphia, Lieut. HOWARD S. MYERS, Pittsburgh.

To Fort McPherson, Ga., base hospital, from Camp Meade, Lieut. DON D. BROOKS, Connellsville; from Camp Sevier, Lieut. SAMUEL B. STURGIS, Philadelphia.

To Fort Oglethorpe for instruction, Capt. MYER SOLIS COHEN, Philadelphia; Lieut. HARRY A. D. BAER, Philadelphia, CLARENCE McCLOUD, Washington; from Aberdeen, Md., Lieut. WILLIAM C. REESE, Wilkes-Barre; from Philadelphia, Lieut. ALBERT T. RANSOME, Philadelphia.

To Fort Screven, Ga., for duty, Capt. ARTHUR C. MORGAN, Philadelphia.

To Hamilton and Toronto, Ontario, Can., for consultation, and on completion *to his proper station*, Major ISAAC H. JONES, Philadelphia.

To Hoboken, N. J., base hospital, Lieut. BENJAMIN W. McKENZIE, Philadelphia; from Camp Meade, Lieut. JACOB PEARL, Philadelphia. For duty, from Army Medical School, Lieut. ARNE W. CLOUSE, Geneva; from Camp Grant, Lieut. THOMAS SCHUBB, Pittsburgh.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieuts. HAROLD F. LANSHE, Allentown; HARRY W. BACHMAN, Philadelphia.

To New Haven, Conn., Yale University, for duty, from Camp Leach, Capt. JOSEPH LEIDY, Philadelphia. For duty, Capt. ISAAC H. ALEXANDER, Pittsburgh; from Fort Oglethorpe, Lieut. HAROLD W. KINDERMAN, Philadelphia.

To Newport News, Va., for duty, Lieuts. VICTOR K. MARSTELLER, Bethlehem; EDGAR C. NIEBAUM, Pittsburgh.

To New York City, Neurological Institute, for instruction, from Camp Jackson, Major EVAN W. MEREDITH, Pittsburgh, School for Military Roentgenology, for investigation, and on completion *to his proper station*, from Fort Oglethorpe, Major WILLIS F. MANGES, Philadelphia.

Pittsburg Barracks, N. Y., for duty, from Cape May, Lieut. CLARENCE A. PATTEN, Philadelphia.

Resignation of Capt. EDWARD B. GLEASON, Philadelphia, accepted.

The following order has been revoked: *To Hoboken, N. J.*, for duty, Capt. ISAAC H. ALEXANDER, Wilkinsburg.

Porto Rico

To Camp Las Casas, San Juan, P. R., for duty, Lieut. AMNUEL F. NATER, San Juan.

Rhode Island

To Camp McClellan, Anniston, Ala., base hospital, from Army Medical School, Lieut. EDWARD W. MULLIGAN, Providence.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Camp Doniphan, Capt. HOWARD E. BLANCHARD, Providence.

To Portland, Ore., Yeon Building, for duty, from Lake Charles, La., Lieut. KENNETH CHENHALL, Providence.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Fort McHenry, Md.*, for duty, Capt. WILLIAM B. CUTTS, Providence.

South Carolina

To Camp Crane, Allentown, Pa., base hospital, from Camp Jackson, Capt. WILLIAM H. JOHNSON, Charleston.

To Camp Hancock, Augusta, Ga., base hospital, from Camp Lee, Lieut. RALPH H. McFADDEN, Chester.

To Camp Jackson, Columbia, S. C., for duty, Lieut. WILLIAM H. MATHIS, Collins; from Williamsbridge, Lieut. LADSON D. BOONE, Charleston.

To Camp Travis, Fort Sam Houston, Texas, as assistant to camp surgeon, from El Paso.
To Fort McHenry, Md., for duty, from Camp Meade, Lieut. WILLIAM R. JOHNSON, Windsor.
To Hoboken, N. J., for duty, from Army Medical School, Lieut. COLLINS E. SMITH, Ridgeville.

South Dakota

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. ARCHIE P. KIMBALL, Colome; GERBARD J. LONG, Oldham.
To Milwaukee, Wis., base hospital, from Camp Zachary Taylor, Lieut. CARL N. HARRIS, Wilmot.
To Portland, Ore., Yeon Building, for duty, from Camp Greene, Lieut. HARLEY D. NEWBY, Parker.
To San Francisco, Calif., for duty, Capt. ALFRED C. ALLEN, Deadwood.

Tennessee

To Camp Dix, Wrightstown, N. J., base hospital, from Fort Riley, Lieut. PERCY D. BIDDLE, Columbia.
To Camp Dodge, Des Moines, Ia., base hospital, from Camp Travis, Lieut. ELMER S. MAXWELL, Nashville.
To Camp Gordon, Atlanta, and *Camp Forrest*, Chickamauga Park, Ga., for duty, from Camp McClellan, Capt. LEE A. STONE, Memphis.
To Camp Gordon for duty, Capt. EDWARD T. WEST, Johnston City; Lieut. JAMES H. JONES, Hampshire; from Fort Oglethorpe, Lieut. VIRGIL E. MASSEY, Knoxville.
To Camp MacArthur, Waco, Texas, as orthopedic surgeon, from Philadelphia, Lieut. BEECHER L. OGLE, Knoxville.
To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. JOHN B. CROSS, Whese.
To Camp Wadsworth, Spartanburg, S. C., and *Camp Hancock*, Augusta, Ga., for duty, from Camp Forrest, Capt. LEE A. STONE, Memphis.
To Portland, Ore., Yeon Building, for duty, from Lonoke, Ark., Capt. CHARLES W. BROWN, Nashville; from Fairfield, Ohio, Lieut. HUGH W. ALLAN, Knoxville.
To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, Lieut. DURWARD B. ROACH, Nashville.
To Washington, D. C., for duty in the Surgeon-General's Office, from Camp Meade, Major EDWARD C. ELLETT, Memphis.
Resignation of Major MATTHEW C. McGANNON, Nashville, accepted.
The following orders have been revoked: *To Fort Oglethorpe* for instruction, Capt. DAVID R. NEIL, Nashville. *To Pittsburgh, Pa.*, Carnegie Building, for instruction, and on completion *to their proper stations*, from Camp Sherman, Lieuts. JOHN S. MILLER, Collierseville; THOMAS W. MENEES, Nashville.

Texas

To Army Medical School for instruction, from Camp MacArthur, Capt. EUGENE POWELL, Fort Worth; from Camp Devens, Lieut. ERNEST J. STEVENS, San Antonio.
To Camp Beauregard, Alexandria, La., base hospital, from Camp Cody, Capt. THOMAS C. BROOKS, Bay City.
To Camp Bowie, Fort Worth, Texas, base hospital, from Camp Travis, Lieut. THOMAS T. JACKSON, San Antonio.
To Camp Devens, Ayer, Mass., base hospital, from Fort Riley, Lieut. MELVIN O. REA, Dallas.
To Camp Doniphan, Fort Sill, Okla., as orthopedic surgeon, from Philadelphia, Lieut. CARL B. YOUNG, Ja., Houston.
To Camp Kearny, Linda Vista, Calif., base hospital, from Camp Cody, Lieut. WILLIAM T. DUNNING, Gonzales.
To Camp MacArthur, Waco, Texas, base hospital, from Army Medical School, Lieut. GEORGE M. JONES, Smithville. For duty, Lieuts. AUGUST J. STREIT, Marlin; LEWIS S. JOHNSTON, San Antonio.
To Camp Pike, Little Rock, Ark., for duty, from Army Medical School, Lieut. HUBERT L. BROWN, Sherman.
To Camp Travis, Fort Sam Houston, Texas, base hospital, from Camp Cody, Capt. MILES J. DUNCAN, Dallas. For duty, Lieuts. ROGERS W. McKEAN, Fort Worth; OSCAR M. DILLEN, Lufkin; FRED A. ALLIN, San Antonio; HENRY C. BAILIFF, EDWARD E. YEAGER, Temple.
To Fort Bliss, Texas, for temporary duty, from Camp MacArthur, Capt. DAVID H. LAWRENCE, El Paso.
To Fort Oglethorpe for instruction, from Camp Hancock, Lieut. JOHN C. THOMAS, Taylor; from Camp Logan, Lieut. JOSEPH E. McDOWELL, Shamrock; from Everman, Texas, Lieut. JOSEPH H. HICKS, Elkhart.
To Fort Sam Houston, Texas, base hospital, from Fort Douglas, Lieut. EDWARD J. BURUS, Carrizo Springs.
To Hoboken, N. J., for duty, from Camp Cody, Lieut. CHARLES C. COOKE, Keene; from Fort Oglethorpe, Lieut. PERE M. KUYENDALL, Moody.
To Houston, Texas, Signal Corps Aviation School for duty, from West Point, Lieut. PRASTUS B. WHEAT, Casper.
To Portland, Ore., Yeon Building, for duty, from Camp Dick, Lieut. LYLE G. THORNTON, West Point; from Camp Greene, Lieut. EDW. I. BURNETT, San Antonio; from Houston, Lieut. HOMER T. ELKINS, Sinton.
To report to the Commanding general, Philippine Department, for duty, from Camp MacArthur, Lieut. JOHN W. BROWN, Pearsall.
To San Antonio, Texas, Signal Corps Aviation School, for duty, from Mineola, Lieut. WILSON M. BASSETT, San Antonio.
To West Point, Miss., Signal Corps Aviation School, for duty, from San Antonio, Capt. WILLIAM R. JAMIESON, El Paso.

Utah

To Dallas, Texas, for duty, from Mineola, Capt. ROBERT R. HAMPTON, Salt Lake City.
To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. REINHOLD KANZLER, Ogden.

Vermont

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieut. WILLIAM A. FLOOD, North Bennington.
To Camp Leach, Washington, D. C., for duty, Lieut. CLAIBORNE WILCOX, Norfolk.
To Camp Lee, Petersburg, Va., base hospital, from Camp Sevier, Capt. WILLIAM B. PORTER, Richmond. For duty, from Fort Oglethorpe, Lieut. WALTER D. SIMMONS, Richmond.
To Fort Oglethorpe for instruction, Lieut. JAMES McN. FADSLEY, Falls Church.
To New Haven, Conn., for duty, Lieut. JAMES L. STRINGFELLOW, Norfolk.
To report to the commanding general, Philippine Department, for duty, from Camp Custer, Lieut. ARTHUR HOOKS, Blackstone.

Washington

To Camp Fremont, Palo Alto, Calif., base hospital, from Camp Kearny, Capt. COPELAND PLUMMER, Seattle.
To Fort Oglethorpe for instruction, from Fort Riley, Lieut. LORENZO S. DEWEY, Okanogan.
To Hoboken, N. J., base hospital, from Mayo Clinic, Lieut. HUBBARD T. BUCKNER, Seattle.
To Philadelphia, Pa., University Hospital, for instruction, and on completion *to his proper station*, from Camp Meade, Lieut. WHITTING B. MITCHELL, Sumner.
To Portland, Ore., Yeon Building, for duty, from Houston, Major ROBERT A. ALLEN, Tacoma; from Anchorage, Alaska, Lieut. CHAS. C. BENEDICT, Seattle.
To San Diego, Calif., Signal Corps Aviation School, as flight surgeon, from Mineola, Capt. RICHARD W. PERRY, Seattle.

West Virginia

To Arcadia, Fla., Signal Corps Aviation School, as flight surgeon, from Mineola, Capt. WILLIAM W. GILL, Richmond.
To Camp Gordon, Atlanta, Ga., for duty, Lieut. SAMUEL B. NICKELS, Big Stone Gap.
To Boston, Mass., Franklin Union Training Detachment, for duty, Lieut. ULYSSES G. ARNETT, Henderson.
To Camp A. A. Humphreys, Accotink, Va., for duty, from Fort Oglethorpe, Capt. McRAE C. BANKS, Raleigh.
To Camp Gordon, Atlanta, Ga., for duty, Lieut. RICHARD L. DEVEREUX, Wheeling.
To Camp Grant, Rockford, Ill., base hospital, from Army Medical School, Lieut. JOHN P. FARSON, Century.
To Camp Jackson, Columbia, S. C., for duty, Lieut. HERSCHEL R. YOST, Fairmont.
To Camp Pike, Little Rock, Ark., base hospital, from Army Medical School, Lieut. SOLOMON L. CHERRY, Clarksburg.
To Camp Upton, L. I., N. Y., with the board examining the command for nervous and mental diseases, Capt. CECIL DENHAM, Buckhannon.
To Newport News, Va., for duty, Lieut. EDGAR W. SMOOT, Glendenin.

Wisconsin

To Camp Devens, Ayer, Mass., as assistant to the camp surgeon, from Hoboken, Major E. J. BARRETT, Sheboygan.
To Camp Grant, Rockford, Ill., base hospital, Lieut. TIMOTHY J. HOWARD, Milwaukee.
To Portland, Ore., Yeon Building, for duty, from Arcadia, Lieut. CHARLES F. REHLING, Fremont.
To report to the Commanding general, Philippine Department, for duty, from Camp Custer, Lieut. MARTIN DuFRENNE, Middleton.
To Washington, D. C., for duty, and on completion *to his proper station*, from Cape May, Capt. J. GURNEY TAYLOR, Milwaukee.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Health Subsidy Restored by State.—On being informed that $5,000 has been appropriated for the maintenance of a tuberculosis ward at the San Francisco Hospital, and that the board of supervisors have voted to select a site for a new tuberculosis sanatorium, the state board of health has restored the state subsidy to the San Francisco Hospital.

Personal.—Dr. Robert A. Peers, Colfax, who resigned recently from the state board of health to enter military service, has arrived in France.——Dr. William L. Whittington, Santa Rosa, has been appointed first assistant physician at the Sonoma State Home.——Dr. James G. Baird has resigned as a member of the board of health of Riverside.——Dr. John P. Gilmer has resigned as police surgeon at the Receiving Hospital, Los Angeles, to enter the Naval service and has been succeeded by Dr. Clayton G. Stadfield.——Dr. Charles W. Girdlestone has resigned as health officer of Riverside.——Dr. Placida Gardner, city bacteriologist of Los Angeles, has started for France.——Dr. Carl P. Jones, Grass Valley, has accepted the directorship and organization of Naval Station Hospital Unit No. 11.

GEORGIA

Cancer Committee Appointed.—At the meeting of the State Medical Association of Georgia in April, a committee was appointed to educate the public and call the attention of the profession to the increasing danger of cancer. The committee is composed of twelve members, one from each congressional district of the state. Dr. James L. Campbell, Atlanta, is chairman.

ILLINOIS

Violators of Practice Act Convicted.—The department of registration and education reports that it has recently secured convictions for violations of the medical practice act in the following cases:

Martin Krause, Chicago. Fined $100 and costs.
Philip H. Griggs, Jacksonville. Fined $50 and costs.
Mrs. Ella Brown, Hillsboro. Fined $75 and costs.
Mrs. Emma Calvin, Monticello. Awaiting sentence.
H. N. Mettler, Rock Island. Fined $200. Appealed to Supreme Court
D. Cecilio, Wm. Fined $50 and costs.
George Granthau, Irving. Fined $50 and costs.
J. J. Vingird, East St. Louis. Fined $200 and costs.
Dora Dennis, East St. Louis, Fined $75 and costs.
J. W. McClellan, East St. Louis. Fined $50 and costs.
Joseph R. Kloppenburg, East St. Louis. Fined $50 and costs.
A. P. Milliken, Somonauk. Fined $25 and costs.
S. Hirschfeld, Chicago. Fined $100 and costs.
James Brown, Springfield. Fined $50, with thirty days in jail.
L. G. Lewis, Galesburg. Fined $25 and costs.
C. E. Brandt, Bushnell. Fined $25 and costs.
Wm. B. Wilson, Hoopeston. Fined $25 and costs.
R. R. Roberts, Chicago. Fined $50 and costs.
R. Langfelds, Chicago. Fined $100 and costs.
C. Claybourn, Centralia. Fined $150 and costs.
J. J. McCue, Springfield. Fined $25 and costs.
Johann Henrich Wilhelm Harmsen, Chicago. Fined $25 and costs.
W. L. Myers, Bushnell. Fined $25 and costs.
Barbara Glaum, Chicago. Fined $150 and costs.

The following cases are pending:

L. Brodawicz, East St. Louis. Held to circuit court; $1,000 bond.
F. C. Shahler, Galesburg. Held for action of grand jury; $300 bond.
E. S. Spaulding, Cairo. Held for action of grand jury; $300 bond.

Chicago

Election of Officers.—At the annual election of the Chicago Medical Society, held June 18, the following officers were elected: president, Dr. John V. Fowler; secretary, Dr. Hugh N. MacKechnie.

INDIANA

College News.—Contracts for the erection of a new building for the Indiana University School of Medicine, Indianapolis, on the grounds of the Robert W. Long Hospital, were awarded at a recent meeting of the trustees. Plans to continue the Indiana School of Medicine without vacation have been announced by the registrar of the institution.

City Health Board Changes.—Drs. Thomas B. Eastman, Robert O. Alexander, Willis D. Gatch, all of Indianapolis, have resigned as members of the city board of health and charities on request of the mayor. Dr. Gustavus B. Jackson, president of the board, has resigned to enter military service. Drs. James C. Carter and Harry E. Gabe have been appointed members of the board.

IOWA

Personal.—Dr. Guilford H. Summer, Des Moines, secretary of the state board of health, has been unanimously reelected to the position for a term of five years.——Dr. George S. Muirhead, Marion, was operated on for cholecystitis, May 24, at Mercy Hospital, Cedar Rapids, and is reported to be doing well.——Dr. David M. Ghrist, Ames, was seriously injured in an interurban wreck near Boone, May 9, and is under treatment in the Mary Greeley Hospital.

MARYLAND

Service Flag.—A service flag bearing twenty-six stars has been suspended between the two buildings of the Shepherd and Enoch Pratt Hospital, near Touson.

Government Not to Buy Quarantine Station.—On account of the enormous demands upon the federal treasury for war purposes, the House committee on appropriations has refused to consider the expenditure at this time of $176,000 for the purchase of the Baltimore city quarantine station and its equipment, which had been recommended by the United States Public Health Service. The Baltimore quarantine is the only one of the city and state maintained quarantine services which the federal government has not taken over and made a part of its federal quarantine system. Assistant Surg.-Gen. Richard H. Creel stated before the committee that the Baltimore quarantine service is satisfactorily maintained by the city at a cost of about $24,000 a year. This the Public Health Service believes the government can reduce to $10,000 or $12,000. The quarantine service was turned over to the government by the city a few weeks ago at a rental of $1 a year, pending action on the congressional appropriation. The intention of the city officials was to use the money from quarantine in establishing a new municipal hospital in the western part of the city.

Personal.—Major Alfred P. Roope of the Medical Reserve Corps has arrived at General Hospital No. 2, Fort McHenry, from Camp Lee, Va. There are now in the hospital about 300 patients.——Dr. Charles A. Reifschneider, Medical Reserve Corps, medical superintendent of the University Hospital, has been ordered to Camp Meade, Md. He has been assigned to Evacuation Hospital No. 19. Dr. Harry Schmuck, Baltimore, has been made superintendent of the hospital in place of Dr. Reifschneider.——Dr. J. Carroll Monmonier, Catonsville, captain in the hospital corps, who has been for some months in France, has been made chief of the medical and sanitary staff of one of the hospitals near the front, having been transferred from the aero squadron to which he was attached.——Dr. C. Frank Jones, a health warden of Baltimore city, is recovering from an operation performed at St. Joseph's Hospital. Dr. Jones was city diagnostician during the outbreak of infantile paralysis two years ago.——Dr. Luigi D. Stefano has been appointed health warden of the fifth ward of Baltimore, succeeding Dr. Joseph E. Heard, deceased.——Dr. Edward P. Smith, superintendent of Mercy Hospital, Baltimore, resigned, May 29.——Dr. George Y. Massenburg has returned to Baltimore after eight months' service with the Roumanian Red Cross.——Dr. H. G. Tonkin has been elected mayor of Martinsburg.——Dr. Mildred Jencks, who will sail for China in August to become resident physician of the David Gregg Hospital for Women and Children, was the guest of honor at an informal reception held in the Brown Memorial Church, May 7.

MASSACHUSETTS

Laboratory for Cancer Research.—A new laboratory building for the Huntington Memorial Hospital for Cancer Research, Boston, is to be erected at an estimated cost of $6,000, one third of which has already been obtained.

Sentence Confirmed.—It is reported that the state supreme court has decided that Dr. Lemuel F. Noble, Roxbury, Boston, must serve a term of eighteen months at Dear Island; this sentence was imposed by the superior criminal court a year ago, when he was found guilty on ninety-six counts of an indictment charging the unlawful prescribing of narcotic drugs.

Personal.—Dr. Albert M. Shattuck, Worcester, has succeeded Mr. Perreault as trustee of the Grafton State Colony.——Dr. William H. Coon, formerly of Wakefield, has resigned as director of public health of St. Louis, in order to accept a position of director of health and sanitation of the Federal Ship Building Board.——Dr. Frank C. Richardson, Brookline, who has been seriously ill with neuritis, is reported to be improving.——Dr. Ernest V. Scribner, Worcester, is a patient at the Peter Brent Brigham Hospital, Boston.——Dr. Arthur W. Gilbert, secretary to the committee on agriculture of the Boston Chamber of Commerce, has been appointed milk administrator for New England by the New England Regional Milk Commission.——Dr. Ada F. Harris, Worcester, has been appointed pathologist of the Massachusetts State Hospital, Grafton.

District Society Meetings.—Franklin District Medical Society elected officers at Springfield, May 14, as follows: president, Dr. Charles Moline, Sunderland; vice president, Dr. John A. Mather, Colerain; secretary, Dr. Frank A. Millett, Greenfield.——Bristol South District Medical Society at New Bedford, May 9: president, Dr. Joseph A. Barre, Fall River; vice president, Dr. Edwin D. Gardner, New Bedford; secretary-treasurer, Dr. Alanson J. Abbe, Fall River.——Worcester District Medical Society at Worcester, May 8: president, Dr. William L. Johnson, Uxbridge; vice president, Dr. William J. Delahanty, Worcester; secretary, Dr. George A. Dix, Worcester; treasurer, Dr. George O. Ward, Worcester.——South Essex District Society at Nahant, May 7: president, Dr. John J. Egan, Gloucester; vice president, Dr. Carolus M. Cobb, Lynn; secretary, Dr. Hamlin P. Bennett, Lynn; treasurer, Dr. George Z. Goodell, Salem.

Faculty Changes.—At the last meeting of the board of overseers of Harvard University, Dr. Richard C. Cabot was made clinical professor of medicine; Dr. Eugene A. Crockett, Le Compt, professor of otology; Dr. Franklin S. Newell, Boston, clinical professor of obstetrics; Dr. William Worth Hale has succeeded Dr. McIver Woody, Boston, as secretary of the medical faculty; Dr. Edwin A. Locke has been appointed assistant professor of medicine; Drs. Fritz B. Talbot and Charles H. Dunn, Boston, instructors in pedi-

atrics; Dr. Robert M. Green, instructor in anatomy; Dr. Calvin G. Page, instructor in bacteriology; Dr. Frederick E. Jones, instructor in dermatology; Dr. Ernest W. Goodpasture, instructor in pathology, and Edward A. Boyden, instructor in comparative anatomy. Dr. Alexander Quackenboss has been granted leave of absence to enter government war work. Drs. Martin J. English, assistant professor in medicine; Horace K. Sowles, alumni assistant in surgery; Francis M. Rackemann, assistant professor of medicine, and James B. Ayer, instructor in anatomy, have resigned. The following appointments have been made: Dr. William A. Perkins, alumni assistant in surgery; Dr. Algernon Coolidge, acting dean of the graduate school of medicine; Dr. William B. Robbins, alumni assistant in medicine; Dr. William N. Souter, Portsmouth, N. H., instructor in ophthalmology.

MISSOURI

Prosecution of Midwives.—The second successful prosecution of a midwife for negligence and failure to report and properly to care for a case of ophthalmia neonatorum, undertaken by the Missouri Commission for the Blind, St. Louis, resulted in the imposition of a fine of $25 on Mrs. Ida Diamant, a local midwife. The prosecution was made through the St. Louis Department of Health. The midwife had failed to report a case of ophthalmia neonatorum. The baby lost one eye; the other was saved by skilful medical attention.

NEBRASKA

Medical School Not Recognized.—It is reported that the Nebraska State Board of Health has endorsed the action of the advisory board in refusing to permit graduates of the Lincoln Medical College to take the examination for the practice of medicine in that state. It was claimed that the medical school has not conformed to the requirements of the state law.

Personal.—Dr. Harris A. Newell, Marshalltown, Iowa, has been appointed first assistant physician at the Lincoln State Hospital, succeeding Dr. Frank S. Marnell, promoted to the position of assistant superintendent.——Dr. Edward Bollinger, first assistant physician at the Hastings State Hospital, has resigned.——Dr. Laureston A. Merriam, Omaha, was struck by an automobile, May 26, and sustained serious injuries.——Dr. Ernest T. Manning has been appointed health commissioner of Omaha.——Dr. Michael J. Ford, Omaha, who has been ill with pneumonia for six weeks, has recovered.

NEW YORK

Personal.—Canisius College has conferred on Dr. William G. Bissell of Buffalo the honorary degree of Doctor of Laws.——Dr. Joseph B. Ringland, Oswego, has been elected president; Dr. Edward J. Wynkoop, Syracuse, vice president, and Dr. Herman G. Weiskotten, Syracuse, secretary, of the Syracuse University College of Medicine Alumni Association.

Free Milk for Babies.—Five new milk stations have been added to the eight that are maintained all the year around by Nathan Strauss. These stations will not only supply milk to babies but will give it free of cost to soldiers and sailors. Of sixty-three babies examined on one day recently at the New York Diet Kitchen Association, more than 50 per cent. were suffering from malnutrition. To remedy the conditions found at the various examination centers, a canvass for the purpose of bringing babies under supervision has been planned. A census of New York's 600,000 children of less than 5 years of age is to be made. It has been found that one visitor reaches about fifty children a day and a physician can examine about thirty babies a day.

New War Hospitals.—The War Department has taken the ten-story building at the northwest corner of Lexington Avenue and Twenty-Second Street, which has just been completed by the city for the Manhattan Trade School for Girls, for use as a war hospital.——The New York Homeopathic Medical College and Flower Hospital has completed plans to convert a six-story factory building on East Sixty-Third Street into a hospital for wounded soldiers. This property adjoins the Flower Hospital. It is estimated that the changes in the building and the equipment will cost about $100,000.——Ground has been broken at 18 West One Hundred and Thirty-Third Street for a hospital to be known as the McDonough Hospital. The building is to cost about $100,000. It will be a regulation base hospital and will accommodate 200 patients. It is to be used exclusively for negro patients. White physicians will head the departments temporarily until negro physicians are trained to take over the work. Dr. Charles N. Dowd will head the surgical department. Dr. Howard C. Taylor and Dr. William P. Healy will also be on the staff temporarily.

New York City

Instruction in Health Work for Young Children.—In cooperation with the Peoples' Institute, Federation for Child Study, and the Bellevue Social Service, a course in war-time training for volunteers in health work for children of school age is now being conducted by Teachers College, Columbia University, under the auspices of the nutritional committee.

Personal.—Dr. C. H. Stockwell, surgeon of the *Carolina*, which was torpedoed, June 4, is among the rescued.——Dr. Herbert C. Allen, chief of staff, Dr. J. Hubley Schall, chief surgeon, and Dr. E. Rodney Fiske, of the Cumberland Street Hospital, Brooklyn, have handed their resignations to Charity Commissioner Bird S. Coler.——Dr. Henry Keller sailed for the Orient, June 11, with the medical unit that is being sent to Palestine.

New York Clinic for Speech Defects.—This is the first free medical clinic to be licensed by the state board of charities devoted solely to the cure of defective speech conditions. Though open only a few monthts, it has already treated more than 300 cases. It was organized to treat all forms of speech and voice disorders; to take care of teeth, mouth, and jaw conditions when such conditions are the causative factors of defective speech; to reeducate patients to overcome faulty voice or speech habits; to reeducate those who are deaf or hard of hearing. The clinic also maintains a bureau of information and a clearing house for speech and voice defects.

OHIO

Typhoid Statistics.—It is estimated by the state department of health that if the prevalence of typhoid fever in 1918 is as great as in 1917, 1,400 Ohio men of military age and at the most productive period of life will lose four weeks of working time. The department urges local health officials to support it in a vigorous campaign against typhoid.

More Tuberculosis Beds Needed.—The state department of health estimates that Ohio should raise its capacity of 1,500 tuberculosis beds to 5,000 in order to care adequately for the sufferers from tuberculosis in the state and to protect the remainder of the population from infection. The department is endeavoring to enlarge the state sanatorium at Mt. Vernon, and is urging the formation of health districts in counties which have not as yet organized.

Personal.—Dr. Austin S. McKitrick, Kenton, has been elected a trustee of the Ohio Northern University, Ada.——Dr. Charles L. Brown, Cincinnati, has been appointed city dairy and food inspector.——Dr. Joseph W. Hall, Cincinnati, has succeeeded Dr. Philip Dorger as city physician. Dr. Dorger has been city bacteriologist.——Dr. Harry M. Box has been appointed chief police and fire surgeon of Cincinnati, succeeding Dr. J. Stewart Hagen, who resigned to enter military service.——Dr. John M. Withrow has resigned as a member of the staff of the Cincinnati General Hospital, after eighteen years of continuous service.——Dr. Mark A. Brown has been appointed clinical professor of medicine in the University of Cincinnati.

PENNSYLVANIA

Personal.—Dr. John T. Dougherty, Hudson, suffered a fracture of the leg when his automobile went over an embankment, May 21.

Women Graduated.—A class of eight was graduated by the Women's Medical College of Pennsylvania, Philadelphia, June 5. The principal address was delivered by the Rev. Anna Howard Shaw of New York City.

Solarium Transferred.—The exercises attending the transfer of the new solarium for tubercular children of Ashland and vicinity to the state, were held June 5, at Ashland. The solarium is the gift of Mrs. Caroline Lind of Brooklyn. Dr. Jonathan C. Biddle, superintendent and chief surgeon of the Fountain Springs State Hospital, was in charge of the exercises.

Thirty Dispensaries to Be Opened.—Arrangements have been made by the state health department for the opening of a genito-urinary dispensary at Harrisburg. The dispensary will be in the rooms of the tuberculosis dispensary conducted by the state. This dispensary is one of thirty to be opened in various parts of the commonwealth by the health authori-

ties. They are organized for a three-fold purpose: the relief of the physician from the almost compulsory burden of caring for the numerous charity patients suffering from venereal diseases; the prompt and efficient care of such patients free of charge who otherwise would neglect their condition with serious results, and, the betterment of the general health of the community by diminishing and, if possible, eliminating the menace of transmission of the seriously infectious venereal diseases by reaching all such cases and rendering them innocuous as rapidly as possible. The dispensaries were planned by the late Dr. Samuel G. Dixon, months before his death.

Philadelphia

Portrait Presented to Academy.—Through the generosity of Edward H. Coates, for many years president of the Pennsylvania Academy of Fine Arts, the permanent art collection has been enriched by a portrait of the late Dr. S. Weir Mitchell, who for many years was president of the academy.

Infant Mortality High.—The Child Federation has been investigating the problem of its child mortality, which is now higher than in any other city of the United States with one exception. The investigations show that in the poorer sections, the salaries of a year ago are being stretched over the greater demands of today with the result of crowded housing conditions, poor and insufficient food, and inadequate sanitation.

College of Physicians Meets.—At the stated meeting of the College of Physicians of Philadelphia, June 5, papers were read by Lieut.-Col. Pearce Bailey, M. C., N. A., on "Neuropsychiatry in the Army"; by Major Robert M. Yerkes, San. C., N. A., on "Psychological Examinations in the Army"; by Major Charles Bagley, Jr., M. R. C., U. S. Army, on "Neuro-surgical Lessons of the War." The discussion on these papers was opened by Major Stewart Paton, M. R. C., U. S. Army.

Personal.—Dr. Elmer H. Funk has been appointed medical director of Jefferson Medical Hospital to succeed Dr. Henry K. Mohler, who recently resigned to join the Jefferson Base Hospital Unit No. 38. To assume this position, Dr. Funk has resigned as a member of the tuberculosis examining board at Camp Dix.——Dr. Malcolm MacFarlan was knocked down by an automobile, June 14, while crossing Market Street and was taken to the Hahnemann Hospital, where he was found to be suffering from slight internal injuries.

TEXAS

Medical Colleges Merge.—The Fort Worth School of Medicine, medical department of the Texas Christian University, is reported to have merged with the Baylor University College of Medicine at Dallas.

VIRGINIA

New Officers.—At the annual meeting of the Norfolk Medical Society, June 3, Health Commissioner Powhatan S. Schenck was elected president, Dr. Southgate Leigh, vice president, and Dr. Dandridge P. West, Norfolk, secretary-treasurer.

Hospital Notes.—The state orthopedic hospital, which has been offered by the Medical College of Virginia to the state board of health, has been accepted by the board and will be conducted at the Medical College of Virginia and operated in connection with the Memorial Hospital until suitable buildings can be erected.

Personal.—Drs. Lawrence Ingram and Thomas L. Driscoll have been appointed members of the staff of district physicians of Richmond by the administrative board.——Dr. B. L. Phillips, Richmond, has reconsidered his resignation and consented to continue to serve as a member of the staff of the district physicians until the end of his present term.——Dr. Richard W. Garnett, health officer of Fauquier County, has accepted a position with the state board of health and will have charge of medical inspection and of the control of contagious diseases.——Dr. William T. Graham, Richmond, has been appointed head of the state orthopedic hospital.

New State Board of Examiners.—The following members of the state board of medical examiners have been commissioned for a term of four years: first district, Dr. John H. Ayers, Accomac; second district, Dr. P. St. Louis Moncure, Norfolk; third district, Dr. Junius E. Warinner, Richmond; fourth district, Dr. J. Bolling Jones, Petersburg; fifth district, Dr. Richard S. Martin, Stuart; sixth district, Dr. John W. Preston, Roanoke; seventh district, Dr. Philip W. Boyd, Winchester; eighth district, Dr. Samuel W. Maphis, Warrenton; ninth district, Dr. William W. Chaffin, Pulaski; tenth district, Dr. Robert Glasgow, Lexington. Dr. J. Leonard Jennings, Danville, was named as homeopathic member of the board and Dr. E. H. Shackleford, Richmond, as osteopathic member.

CANADA

Miscellaneous.—The government of Saskatchewan is to make a medical inspection of all defective children in that province.——Western University, London, Ont., has fallen into line in admitting women students to the study of medicine in that institution.

Personal.—Col. Alexander Primrose, Toronto, has been made a Companion of the Bath.——Col. George E. Armstrong, Montreal, has been made a Companion of the Order of St. Michael and St. George.——Dr. George Badgerow, formerly of Toronto, but for several years a practitioner in London, England, has been made a C. M. G.

Research at Toronto and McGill Universities.—A donation of $2,000,000 has been promised to the University of Toronto for research work, and the governors are considering the acceptance of the gift. Prof. A. B. Macallum, chairman of the scientific and industrial research council of Canada, recently gave it as his opinion that research science faculties should at once be established at McGill and Toronto universities.

GENERAL

Bequests and Donations.—The following bequests and donations have recently been announced:

To the Medico-Chirurgical Faculty of Maryland, his medical library, by the will of Dr. Henry M. Wilson, Baltimore.
American Theatrical and Hospital Association, $6,000, by the annual benefit at the Auditorium Theater, Chicago, June 9.
Goshen (Ind.) Hospital, $5,000, by the will of Hannah B. Walker.
Ossining Hospital, Ossining, N. Y., $1,000, by the will of Mrs. Julia Geer Simmons.

Catholic Hospital Association Meeting.—The third annual convention of the Catholic Hospital Association was held, June 18, 19 and 20, at St. Francis Xavier's Academy, Chicago. The program included several addresses bearing on the standardization of hospitals. The Rev. Charles B. Moulinier, S.J., regent of the Marquette University School of Medicine, Milwaukee, is president of the association.

National Tuberculosis Association Meeting.—The fourteenth annual meeting of the National Tuberculosis Association was held in Boston from June 6 to 8, under the presidency of Dr. Charles L. Minor, Asheville, N. C. The following officers were elected: President, Dr. David R. Lyman, Wallingford, Conn.; honorary vice president, Col. George E. Bushnell, M. C., U. S. Army; vice presidents, Drs. Lawrason Brown, Saranac Lake, N. Y., and Lee K. Frankel, New York City; secretary, Dr. Henry Barton Jacobs, Baltimore; treasurer, Dr. William H. Baldwin, Washington, D. C.; executive committee, William T. Parsons, Washington, D. C., and Drs. Orville W. McMichael, Chicago; Charles L. Minor, Asheville, N. C.; Hoyt E. Dearholt, Milwaukee; Fred A. Hoffman, Newark, N. J., and Edwin R. Baldwin, Saranac Lake, N. Y.; directors, Mrs. F. C. Hodgston, Atlanta, Ga.; George F. Canfield, New York City; Col. Frank Billings, M. C., N. A., Chicago; Dr. Alfred Henry, Indianapolis; Bolton Smith, Memphis, Tenn.; Col. George E. Bushnell, M. C., U. S. Army, Washington, D. C.; Miss Agnes Randolph, Richmond, Va.; Dr. Alfred Meyer, New York City; W. Frank Persons, Col. A. M. Foster, New Haven, Conn.; Isaac Adler, Rochester, N. Y.; Thomas McCrae and Dr. W. Jarvis Barlow, Los Angeles, Calif. The association adopted resolutions deploring the retirement of Surgeon-General Gorgas, and requested that he be continued in active service in his present position, so that neither his work nor his plans may be interrupted.

Training School for Mental Hygiene Workers.—It is announced from the New York headquarters of the National Committee for Mental Hygiene that a war emergency course will be given at Smith College, Northampton, Mass., to prepare workers to assist in reclaiming soldiers suffering from nervous and mental diseases. There is a large number of these maladies in the present war, as has been found in the experience of foreign countries as well as in our own Army. In the treatment of these soldiers, civilian aides as well as medical specialists are required, and it is for the training of these aides that the course is provided. It will be given also at the Boston Psychopathic Hospital through a sub-

committee consisting of Drs. E. E. Southard, Boston; William L. Russell, L. Pierce Clark of New York, Walter E. Fernald Waverly, Mass., and William A. Neilson, Ph.D., president of Smith College. The work is to be under the immediate direction of Miss Mary C. Jarrett, chief of social service at the Boston Psychopathic Hospital. The course will continue for more than eight months and will be open to college graduates and other young women who have had an equivalent of technical training. The academic portion of the instruction will be given at Smith College from July 8 to August 31, to be followed by six months' practice work at various centers where there are opportunities for social work with psychiatric cases under the direction of trained social workers. Many eminent psychiatrists, psychologists and sociologists will be among the lecturers in the course.

FOREIGN

Medical Society Organized at Athens.—We are informed from Greece that a medico-surgical society has been organized at Athens, the purpose of which in part is to inform the profession in other countries of what is being done in the medical sciences in Greece. It seems to be the plan to send out carbon copies of the typewritten transactions, in French, to a few leading medical journals in other lands. Dr. N. Alivisato is president and Dr. A. Portocalis, Rue Canaris 11, Athens, is secretary.

National Information Bureau in France.—The French authorities have organized a special service for the purpose of disseminating information on various questions, particularly connected with the war, and it has distributed millions of educational pamphlets and circulars in the last year or two. The headquarters are at rue François Ier 3, Paris, which is also the headquarters of the Union contre la Propagande ennemie. The National Paper Commission has also been organized, which has lightened the burdens of the periodical press, and the National Press Commission is also simplifying matters. The medical press is not represented in this Office national de la Presse, and the Association de la Presse médicale has recently petitioned the government to permit it to be represented in the commission, citing various reasons why this should be done.

SOUTH AND CENTRAL AMERICA, MEXICO AND WEST INDIES

Argentine Medical Association Organizes an Honor Court.—The *Semana Medica* states that at the recent annual meeting of the Asociacion Medica Argentina at Buenos Aires, a *tribunal de honor* was organized, and Drs. J. Mendez, A. M. Centeno, E. Zarate, D. J. Cranwell and I. Allende were appointed as the executive board.

Twenty-Fifth Anniversary of the Gaceta Medica de Caracas.—As this journal is the official organ of the National Academy of Medicine of Venezuela, the twenty-fifth anniversary of its establishment was celebrated by a special historical meeting of the academy, although the academy itself was not organized until 1904. The evolution of medicine in Venezuela was reviewed by the first president of the local medical society, Dr. F. A. Risquez, and the history of the *Gaceta* was told by Dr. L. Razetti, the only director of the *Gaceta* since its foundation, who is also permanent secretary of the academy.

The Alcohol Question in Chile.—The *Semana Medica* reproduces a letter recently received from the secretary of the Liga Nacional contra el Alcoholismo of Santiago, Chile, Dr. C. F. Peña. He relates that last December an official committee was appointed by the authorities to study ways and means to reduce the consumption of alcohol. One of the first steps was to publish a series of articles which the lay press is publishing, not only to educate the public regarding the evils of acohol, but also to convince the liquor manufacturers that it would be to their own pecuniary interest to restrict materially their output of spirituous beverages. The higher prices they would receive from restricted output would more than counterbalance the loss in quantity. The lay press has taken up the matter with energy, supplementing the league's articles with editorials. Peña urges the anti-alcohol forces in Argentina to have his league's articles or their equivalent reproduced in the Argentine lay press, as he thinks that this measure of restricted production and higher prices solves the problem of alcohol by harmonizing private interests with public health interests. He adds that concerted action in neighboring countries would strengthen the movement materially.

BUENOS AIRES LETTER

BUENOS AIRES, May 6, 1918.

Medical School at La Plata

The executive board of the University of La Plata, on the initiative of the rector of the university, Dr. R. Rivarola, has voted to organize a preparatory school for the medical sciences, corresponding to the first three years of the medical curriculum at the University of Buenos Aires. The principal reason for the foundation of this medical school is the overwhelming number of students of these first years at Buenos Aires. There are more than 3,000 students enrolled at Buenos Aires in the medical and dental departments and in the departments for pharmacy and obstetrics. The cities of Buenos Aires and La Plata are only 60 kilometers (37 miles) apart. The new school will start the first two year courses in 1919, and the third year will be added in 1920.

Strike of Students at Cordoba

There has long been a movement under way for the reform of the statutes of the University of Cordoba, in northern Argentina, but any change has been opposed by the executive board of the university. The officers of the various faculties form the board, and their positions are for life. This system of administration was modified some time ago in the other state university, the one at Buenos Aires. On account of some of the measures imposed by the board of the University of Cordoba, there has recently been a strike on the part of the students, which compelled the intervention of the national authorities. Dr. Matienzo was appointed arbitrator, and he has made his report to the government, and the decision of the latter is now awaited. All the medical schools of Argentina (Buenos Aires and Cordoba) are state institutions. No schools of the kind can exist except those belonging to the state, according to the laws of the country.

Campaign Against Malaria

The president of the Public Health Service has gone to the northern part of the country to reorganize the antimalaria service for more effectual work. On account of the enormous size of the area affected and the scanty population, as well as the funds available, it will be necessary to limit to certain selected points the measures to be applied.

Official Organ of the Academy of Medicine

When the Academia de Medicina of Buenos Aires was founded in 1822, a bulletin was issued the following year, entitled the *Anales de la Academia de Medicina*, but it was not long lived. The bulletin has been now revived, and the first number of the first volume has appeared. The leading article is Ayerza's report on endemic regional arsenic poisoning [from the drinking water. The region affected is the Bell Ville district. This endemic chronic poisoning was described in THE JOURNAL, Feb. 16, 1918, p. 496.]

Alcoholism and Mental Disease

The official report of the state insane asylum, covering a period of twenty-seven years to date, reveals that among the 28,035 patients during that period alcohol was responsible for the insanity in 39.6 per cent.

New Chief of Public Health Service

The national executive has appointed Prof. Dr. G. Araoz Alfaro president of the Departamento Nacional de Higiene. Dr. Alfaro has ratified the appointments of all the personnel of the service, and intends to reorganize the department. Among his chief efforts figures the organization of an active campaign against pulmonary tuberculosis, with permanent institutions to aid in combating it. New hospitals, sanatoriums and dispensaries are to be created. The government plans a tax on the Lottery which it is expected will bring in about four millions annually.

Death of Dr. B. Sommer

Dr. B. Sommer died April 11, two years after he had completed twenty-five years' service as professor of dermatology in the medical school of the University of Buenos Aires. He was the founder of this chair in 1892.

Elections in the Medical Societies

The annual elections have recently been held in the principal medical societies of Buenos Aires. In the Asociacion Medica Argentina Dr. C. Robertson was elected president, Dr. J. Saralegui secretary, and Dr. P. Hardoy, director of the

Revista, published by the association. In the Sociedad de Cirugia, Dr. M. Castro was elected president and Dr. M. Antelo, director of the *Revista*. In the Sociedad de Higiene, Microbiologia y Patologia, Dr. J. E. Penna was appointed president.

LONDON LETTER

LONDON, May 22, 1918.

Interallied Conference on Disabled Fighting Men

The Duke of Connaught has opened the Interallied Conference on Disabled Fighting Men in the Central Hall, Westminster. The object is to discuss the after-care of discharged sailors and soldiers. Nearly 100 British representatives attended. The other countries represented were Australia, Belgium, Canada, France, India, Italy, New Zealand, Portugal, Serbia, South Africa and the United States. Speaking in French, the duke welcomed those present on behalf of the king and the government of Great Britain. "It is just a year ago," he said, "that the first Allied Conference, called by the French and Belgium governments, met in Paris and laid the foundation of these meetings, resulting in the formation of a permanent committee with a research bureau and museum in Paris. The first number of the *Inter-Allied Review on the After-Care of Disabled Men* has just appeared, and in its pages will be found from time to time all the latest developments of science in the great cause which we all have so much at heart, namely, the healing of wounds and the reestablishing in civil life of men maimed and disabled by war. As our armies are united in the field against the common foe to uphold liberty and justice against invasion and oppression, so are we all united here today to bring to light and to discuss all that is new and all that is scientifically possible to alleviate the sufferings and heal the wounds of the brave and gallant men who side by side have fought and shed their blood for home and country in this great war. I am happy and proud to welcome here today delegates from all our great Allies and neighbors, whose armies are now fighting shoulder to shoulder with our men in the terrible struggle only some hundred miles away—delegates from France (among whom I am pleased again to see Dr. Bourrillon, president of the Permanent Committee in Paris), Italy, Belgium, United States, Portugal, Serbia, and Siam, and from our gallant Dominions of Canada, Australia, South Africa, New Zealand, India, Newfoundland, and other parts of the British Empire." In connection with the conference there is an exhibition of the various kinds of apparatus used by the disabled and at which they perform such operations as basket making and boot repairing. This was visited by the king and queen, who took great interest in the work and chatted with representatives of foreign countries, frequently in their own language.

The Medical Service of the Navy

In this war the navy has been called the silent service, not because of any want of recognition of the fact that its work is all-important, but because the circumstances have rendered it necessary that secrecy should be maintained as to most of its operations. Hence while much has been heard of the work of the Army Medical Service, little is heard of the Naval Medical Service. Yet it could furnish a wonderful record of preparation and foresight and work performed without a hitch on the two most important occasions when it was put to the test—the battles of Jutland and Zeebrugge. Several new formations have been created under war experience, such as the Naval Medical Transport Unit, the Naval Massage Corps, and the Naval Voluntary Aid Detachment. In July, 1914, the number of medical officers serving was 520; at the present time the number is 1,378, in addition to surgeon-probationers and dentists. There are fifty-nine dental surgeons holding commissioned rank in the Royal Naval Volunteer Reserve, and serving with the fleet at sea, and 218 surgeon-probationers with the relative rank of sublieutenants. The nursing sisters at home and abroad number in all 252. Of the new services, the special unit to deal with the transport of sick and wounded from the fleet is numerically the most important. It consists of thirty medical officers and 300 ratings, with a civilian voluntary personnel consisting of the voluntary aid detachments and bearer parties of approximately 1,200 men, all exempt from military service. There are five regular service ambulance trains, and in addition there is a voluntary aid detachment train always ready for service at Glasgow. There are more than 100 motor ambulances. In Scotland and on the east coast of England are mobile parties which can be sent at short notice from place to place. Nine qualified masseurs or masseuses are attached to each large naval hospital, and recently 104 women members of the voluntary aid detachment have been enrolled for service with the navy and are employed only in hospitals. The great naval hospitals at Haslar, Plymouth and Chatham have accommodations for 3,556 patients, and in the United Kingdom there is accommodation for approximately 10,000 men. In addition there are hospitals at Hong Kong, Bermuda, Simonstown, Malta and Gibraltar, the last two named providing accommodations for 1,450 patients. Since the outbreak of war the health of the navy has been remarkably good, and, in fact, is probably better than in the years preceding the war. There are eleven hospital ships working between the fleet and the shore hospitals. Though the number of naval medical officers killed in action is small in comparison with the Army Medical Corps, a heavy toll has been taken when the comparatively small size of the force is considered. The number of naval medical officers killed or drowned in action to the present date is eighty-three, while nineteen have died in service.

The Epidemic of Acute Encephalitis

The epidemic of acute encephalitis (described in my last two letters) still continues. The various names that have been applied to the condition—acute infective ophthalmoplegia, acute encephalitis myelitis, botulism, etc.—show that considerable doubt prevails as to its nature. Investigations by the local government in collaboration with health officers and physicians continue. The earliest case is reported to have had its onset January 28, and there were two having onset in the week beginning February 10, and two in the last week of that month. In consecutive weeks in March, 7, 3, 10 and 14 cases came to notice; and in April and the first week of May the corresponding numbers were 11, 19, 14, 16 and 6. The largest number of cases has been recorded in London, but groups of cases have occurred also in Sheffield and Birmingham, and single cases have been reported from many other parts of England and Wales. The cases occurred among persons having the most varied occupations. No group of cases was associated with a single occupation. In only one instance were there two cases in the same household. The cases about equally affected the two sexes. The case mortality has approached 20 per cent. It is probable that slight cases have been overlooked. Three cases occurred in infants in the first year of life, one of them being in a breast-fed infant aged 3½ months. Five were in children from 1 to 5, and seven in children from 5 to 10. Of 105 cases of which partial reports are available, sixty-four occurred in persons over 20 years of age. The clinical records at present available relate to eighty-seven cases, but many of them are incomplete, and it is not certain that in all cases there was paralysis of the cranial nerves. The symptoms and signs recorded may be thus summarized: Among general symptoms pyrexia was present in 41 of the 87 cases, usually in the early stage of the illness; it may have been present in some other cases which were not reported on while in that stage. In eight cases it was stated that there was no fever. Of other general symptoms, headache or localized occipital, temporal or frontal pain was recorded in 31 cases. Profuse sweating was noted in 7 cases and an erythematous or other rash in 6. Various mental symptoms come next to pyrexia in order of frequency, namely, drowsiness in 29 cases, lethargy in 18, stupor in 13, asthenia in 12, coma in 9; also vertigo in 17 and delirium in 20. Absence of lethargy was recorded in 3 cases, and the presence of restlessness, irritability or sleeplessness in 5. Of symptoms referable to partial or complete paralysis of certain cranial nerves, there were recorded bilateral facial paralysis in 9, unilateral in 11; bilateral ptosis in 32 cases, unilateral in 2; ophthalmoplegia in 18, diplopia in 18, strabismus in 10, nystagmus in 9, double third nerve palsy in 6, pupillary dilatation with failure of accommodation in 2, and paralysis of the tongue in 2. Affections of speech were noted in 5 cases. Rigidity of the muscles was recorded in 10 cases, muscular tremors in 9, and twitching or jerking of certain muscles of the face or limbs in 6. Among symptoms referable to the gastro-intestinal system, obstinate constipation was recorded in 35 cases, vomiting in 10 cases, difficulty of swallowing in 9, and dryness or soreness of the throat in 3. The parotid glands were swollen in 2 cases. Retention of urine was recorded in 15 cases, and incontinence in 3. The records relating to the circulatory and respiratory systems are not sufficiently complete for useful summary at present. Although in a considerable proportion of the reported cases there was a history of the recent consumption of such foods as sausages, sardines, shrimps, lobsters, canned salmon, cheese,

bacon and ham, these and other exceptional foods had not been consumed in the majority of reported cases; and no particular food has been found to be related to the outbreak. The pathologic investigation of the outbreak is being undertaken by the Medical Research Committee. The results so far obtained show no bacteriologic evidence of botulism and give no support to the association of the outbreak with infection from food. Further investigations are in progress. The view has been put forward that the epidemic is the cerebral form of acute anterior poliomyelitis, that is, polioencephalitis; but against this is the fact that there is no prevalence of the ordinary or spinal form of this complaint.

A Permanent Anthropometric Department

At a meeting of the reconstituted National Birth-Rate Commission (instituted by the National Council of Public Morals), a resolution advocating the inclusion in a ministry of health of a permanent anthropometric department was passed. Prof. Arthur Keith stated that the Anthropological Survey Committee, appointed in 1916 by a conjoint board of scientific societies, had reported that a survey was highly desirable in the national interest—the survey of adult males by the Ministry of National Service, of schoolchildren by the Board of Education, and of factory children by factory physicians working under the Home Office. An anthropometric survey is being made of soldiers of the new armies of the United States, and the committee is in communication with the American committee to secure adoption of common methods, so that their results may be comparable. It would be interesting, he said, to compare the original national (Britain) with her descendants in America. A comparison of the skulls and skeletons of ancient with modern British people shows that distinct changes have taken place and apparently are taking place, particularly in the teeth, jaws and faces of modern persons. These changes are of a degenerative nature. There is reason to believe that certain racial constituents of the people suffer from these changes more than others, and the survey should be of such a nature as to elicit the racial constituent of each district and each section of the people in that district.

PARIS LETTER

PARIS, May 16, 1918.

The Commission for Radioactive Substances

By decree of the minister of armament and war materials, there has been instituted a committee to be known as the "Comité des corps radioactifs" which will take up particularly the needs of the state and private industries in respect to radioactive substances, and supervise the purchase, manufacture, import and export of such substances. One of the vice presidents of this committee is a representative of the army medical service; the civil practitioners and the radium institute are also represented. This decree is based on reports showing the increasing use of radioactive substances in war and private industries, and in military and civil hospitals. The radium industry, a product of France, should have a much greater growth and development after the war.

Gift from the American Red Cross

The American Red Cross has donated to the French Red Cross 10,000,000 francs in recognition of the valuable services rendered by the latter and to cement the friendship already existing between these two bodies. The American Red Cross has admitted to its honorary membership the Société de secours aux blessés militaires, l'Union des Femmes de France and l'Association des Dames françaises.

Epidemic Lethargic Encephalitis

March 22, Prof. Arnold Netter called the attention of the Société medicale des hôpitaux de Paris to the existence of a small epidemic of lethargic encephalitis. This affection, usually febrile in nature, makes its onset with headache and sometimes vomiting. Soon there appears somnolence, increasing in degree gradually, and nearly always an involvement of the muscles of the eyes. Lumbar puncture is negative, bacteriologically and otherwise. Since then other physicians in Paris have seen similar cases, and they have also appeared in England in London, Sheffield and Manchester (epidemic stupor). The characteristic symptoms in connection with the eye include ptosis of the eyelid, strabismus, immobility of the eyeball and nystagmus. The internal eye muscles are not involved so often, although there may be paralysis of accommodation, a slowness of the iris to react to light. The muscles innervated by the facial nerve, those of the tongue, of the larynx and of the extremities, may participate in the paralysis. Tremor is not exceptional. The typical symptoms of meningitis, Kernig's sign, stiffness of the muscles and irregular pulse, are absent or present only in mild degree. The disease is grave. Death or a cure may take place in a few days. Usually the disease is prolonged for weeks or months. During the convalescence the persistence of muscle fatigue and eye disturbances is noted for a long time. Netter is of the opinion that this disease is similar to that mysterious epidemic which was observed in Italy in 1890 and known as "nona" and whch was characterized by a lethargy which often proved fatal.

Signs of Death

The usual procedure employed at the front to determine that death has actually occurred is to inject fluorescein according to the method of Dr. S. Icard of Marseille. In the living the eye will take on a peculiar green color, as though a large emerald had been set in the orbit. If there is no such coloration to be noted one or two hours after this injection, it may be stated positively that the person is dead. Another positive sign is the acid reaction of the spleen tissue (Ambard and Brissemorel). Dr. Terson of Paris has called attention to eye signs indicative of death which are obtained by acting on the external circulation of the eye. Halluin recommended the instillation of ether, which produces rubefaction in the living eye; but this is sometimes very dangerous for the cornea. It is better to produce a reaction by mechanical means, by scarification, cauterizing the conjunctiva of the eyeball or of the eyelids, chemically by means of copper sulphate or by conjunctival injections of sodium chlorid solution. These procedures are not dangerous; if redness is not produced thereby it signifies that there is no circulation. Terson has experimented with the use of ethyl-morphin hydrochlorid powder (dionin), which produces intense vasodilatation in the living, with chemosis, and yet without any danger to the eye. He is of the opinion that if the result of these various methods is negative, two hours after the supposed death, there is no danger of premature burial.

Sanitation of Dugouts

The Société de médecine publique et de génie sanitaire recently discussed this subject at some length. The results of this discussion may be summarized as follows: The making of airholes in these dugouts or shelters has never caused any special inconvenience, hence openings should be made in the masonry recently built to prevent the entrance of asphyxiating gases. These openings should, however, allow air to enter so that the shelters will be ventilated sufficiently. The number of men to be admitted to these shelters and the cubic feet of air space which they should have should be computed at not less than 4 cubic meters of air space for each person. After each alarm these dugouts must be ventilated as much as possible by opening wide the entrances. They should be cleaned and disinfected at regular intervals; all shelters should be taken care of in this way; milk of lime (suspension of calcium hydroxid) seems to be the best available agent for this purpose. All persons suffering with infectious diseases should be isolated as much as possible from the other individuals who have sought refuge in the same shelter. The society called the attention of the authorities to the most efficacious means of avoiding the accidents resulting from the ignition of gas freed by a broken conduit or the invasion of the shelters by gas.

For the Blinded Soldiers

Acting on the suggestion of Mr. Georges Kessler, president of the Fonds permanent d'assistance aux aveugles de guerre britanniques, français et belges, Mr. J. Seligman recently placed at the disposal of the blinded soldiers of the allied armies the château de Madrid with 160 rooms, situated near Paris on the confines of the Bois de Boulogne. Mr. Seligman has set apart for this service an annual income of 75,000 francs with the sole proviso that American soldiers are to be received and cared for at the château in the same way as the British, French and Belgian soldiers. The château is given for this purpose for a term of three years.

The Legion of Honor

Dr. Alexis Carrel of New York has been made a commander of the Légion d'honneur, and Dr. G. Lafayette Foster, director of the Canadian Army Medical Service an officer.

Personal

May 21, the Académie de médecine elected Dr. Siredey of Paris to membership in the section on pathologic anatomy.

Dr. Vaillard, medical inspector general (retired) has been made a member of the Conseil supérieur d'hygiène publique de France, vice Dr. Mosny, deceased.

Deaths

John Harper Long, professor of chemistry at the Northwestern University Medical School and member of the Council on Pharmacy and Chemistry, died at his home in Evanston, Ill., June 14, after an illness of over six months. Professor Long was born near Steubenville, Ohio, in December, 1856. He was graduated from the University of Kansas in 1877, and later studied at Tübingen, Germany, receiving the degree of doctor of science in 1879. He was appointed professor of chemistry in the medical school of Northwestern University in 1881. Professor Long was a member of the referee board of consulting scientific experts of the United States Department of Agriculture.

He was a chemist of the state board of health and of the sanitary district of Chicago. He served as president of the American Chemical Society in 1903, of the American Association for the Advancement of Science in 1903 and of the Institute of Medicine of Chicago in 1917. Professor Long was a member of the United States Pharmacopoeia Revision Committee, and from the time of its organization until his death a member of the Council on Pharmacy and Chemistry. During 1913-17 he was dean of the school of pharmacy of Northwestern University.

Professor Long did much chemical research work, particularly in the branches of physiologic chemistry closely related to medicine. As a member of the Council on Pharmacy and Chemistry he not only gave much time to the routine work, but in addition carried out many original investigations.

Professor Long leaves, besides his widow, Catherine S. Long, four sons—Albert, Esmond, Lother, Captain, United States Marine Corps in France, and Byron, Lieutenant, United States Army—and one daughter, Ariel, wife of Lieut. E. P. Miller of Washington, D. C.

PROF. JOHN H. LONG,
Member of the Council on Pharmacy and Chemistry

Arthur Washington De Roaldes, New Orleans; Tulane University, New Orleans, 1870; aged 69; formerly a Fellow of the American Medical Association; fellow of the American Laryngological Association and president in 1916-1917; a member of the American Otological Society; emeritus professor of diseases of the eye, ear, nose and throat in the New Orleans Polyclinic; assistant surgeon of the Sixth International Ambulance Corps during the Franco-German War; founder, trustee and surgeon-in-chief of the Eye, Ear, Nose and Throat Hospital, New Orleans; commander of the Legion of Honor in France; commander of the Order of St. Gregory the Great and knight of the Order of Saints Maurice and Lazare; died at his home in New Orleans, June 13.

Seth Delmar Dice, Hollywood, Calif.; New York University, New York City, 1897; Cornell University, New York City, 1899; aged 46; formerly a Fellow of the American Medical Association; who contracted tuberculosis while an intern in Bellevue Hospital, and after an arrest of the infection was again attacked in 1906, and had been ill since that time with pneumothorax, pneumonia, and empyema, for which four ribs were resected in 1915; died in Los Angeles, May 22, from amyloid degeneration of the liver and kidney.

George Winfield Foster, Stevenson, Ala; Vanderbilt University, Nashville, Tenn., 1892; aged 61; a Fellow of the American Medical Association; and Association of Surgeons of Southern Railways, and president of the Jackson County Medical Society; local surgeon for the Nashville, Chattanooga and St. Louis, and Southern railroads; died at his home, March 11, from meningitis following mastoiditis.

Benjamin E. Miller, Albion, Ind.; Cincinnati College of Medicine and Surgery, 1871; aged 72; formerly a Fellow of the American Medical Association; a member of the Indiana State Medical Association; and treasurer of the Noble County Medical Society; a veteran of the Civil War; for twenty-two years a pharmacist, and for many years health officer of Albion and Noble County; died at his home, May 31, from valvular heart disease.

U. Sim Grant Deaton, Toledo, Ohio; Memphis Hospital Medical College, Memphis, Tenn., 1894; aged 50; a member of the Ohio State Medical Association; a member of the House of Representatives and state senator from Lucas County; captain and assistant surgeon in the Spanish-American War, with service in Cuba, China, and the Philippine Islands; died in Robinwood Hospital, Toledo, May 31, from appendicitis.

John Hillman Bennett, Pawtucket, R. I.; Boston University, 1891; aged 48; a member of the Rhode Island Medical Society, and for several terms president; for many years a member of the State Board of Health, and at the time of his death president; and health officer of Pawtucket; died at his home, June 4, from aneurysm of the aorta.

William Seth Watson, Sacramento, Calif.; Bellevue Hospital Medical College, 1870; aged 67; formerly a Fellow of the American Medical Association and American Electro-Therapeutic Association; medical director of the Institute for Nervous and Mental Disease, Fishkill-on-Hudson, N. Y., and mayor of Fishkill; for nine years a resident of California; died at his home, May 26.

Lieut. Thomas Hart Raines, M. R. C., U. S. Army, Savannah, Ga.; Medical College of Georgia, Augusta, 1900; aged 39; formerly psychiatrist in the Westchester County Penitentiary, East View, N. Y.; and local medical examiner for the Atlantic Coast Line District; on duty as psychiatrist at the Base Hospital, Fort Riley, Kan.; died at that institution, May 24.

Robert R. Hopkins, Richmond, Ind.; Cincinnati College of Medicine and Surgery, 1868; aged 73; a member of the Indiana State Medical Association; surgeon of United States Volunteers during the Civil War; for two years superintendent of an asylum near Cincinnati; an expert on medical jurisprudence; died at his home, May 30.

Robert Day William, Trafalgar, Ind.; Miami Medical College, Cincinnati, 1868; Bellevue Hospital Medical College, 1879; aged 75; a member of the Indiana State Medical Association and once president of the Johnson County Medical Society; a veteran of the Civil War; died at his home, June 3.

Lieut. Tony Edward Hunter, M. R. C., U. S. Army, Versailles, Ind.; Kentucky University School of Medicine, 1904; aged 39; formerly a Fellow of the American Medical Association; a member of the Indiana State Medical Association; died in Hattiesburg, Miss., April 18, from pneumonia.

William Bacon McGill, Lancaster, Calif.; University of Pennsylvania, Philadelphia, 1889; aged 59; a member of the Medical Society of the State of Pennsylvania; district surgeon for the Southern Pacific System; died at his home, March 19, from septicemia following erysipelas.

Albert Jeremiah Elliott, San Diego, Calif.; University of Michigan Homeopathic Medical School, Ann Arbor, 1897; aged 45; formerly a Fellow of the American Medical Association; died in St. Joseph's Hospital, San Diego, May 23, a day after a surgical operation.

Henry B. McKenzie, Enid, Okla.; Medical Department of the University of Tennessee, Nashville, 1887; aged 65; a member of the Oklahoma State Medical Association, and president of the Garfield County Medical Society; formerly health officer of Enid; died at his home, April 23, from pneumonia.

Gaines Worley, St. Augustine, Fla.; Chattanooga (Tenn.) Medical College, 1900; aged 42; a Fellow of the American Medical Association; surgeon of the Florida East Coast Railroad Hospital, St. Augustine; died in Johns Hopkins Hospital, Baltimore, May 30.

William Lockwood Parker, Baker, Ore.; University of Oregon, Portland, 1896; aged 48; formerly a Fellow of the American Medical Association; a member of the Oregon State Medical Association; died in the Good Samaritan Hospital, Portland, May 31.

Gabriel F. Foster, Memphis, Mo.; Long Island College Hospital, Brooklyn, 1868; aged 80; formerly a Fellow of the American Medical Association; a member of the Missouri State Medical Association; died at his home, April 18, from cerebral hemorrhage.

Ethelbert Eldridge Meek, Regina, Sask.; Manitoba Medical College, Winnipeg, 1901; aged 40; medical officer of the sixty-eighth battalion and for two years on duty in France; died from wounds, in a Canadian Hospital at Boulogne, France, June 2.

Jaroslav Radda, New York City; University of Maryland, Baltimore, 1908; Fordham University, New York City, 1909; aged 45; a Fellow of the American Medical Association and American Urological Association; died at his home, June 5.

James Henry Tobin, Pittsfield, Mass.; Albany (N. Y.) Medical College, 1890; aged 50; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of New York; died at his home, June 6.

William Thomas Bruce, Lebanon, Pa.; Hahnemann Medical College, Philadelphia, 1876; aged 72; for several terms a member of the City Council, local board of health and board of education; died at his home, June 1, from uremia.

Joseph Hervy Buchanan, North Plainfield, N. J.; Jefferson Medical College, 1896; aged 46; a Fellow of the American Medical Association; clinical assistant in the Muhlenburg Hospital, Plainfield; died at his home, June 7.

Lieut. Charles Richard Long, M. R. C., U. S. Army, Sedalia, Mo.; National University of Arts and Sciences, St. Louis, 1916; a member of the Missouri State Medical Association; was killed in battle in France, early in April.

Samuel A. S. Jessop, Kittanning, Pa.; Jefferson Medical College, 1879; aged 61; a member of the Medical Society of the State of Pennsylvania; died at the home of his brother in Kittanning, June 2.

Joseph Henry Mattingly, Johnstown, Ohio; Medical College of Ohio, Cincinnati, 1885; aged 58; formerly a member of the Ohio State Medical Association; died at his home, June 4, from arteriosclerosis.

James Cook Benson, Camden, Ala.; University of Alabama, Mobile, 1887; aged 50; a member of the Medical Association of the State of Alabama; died at the Burwell Infirmary, Selma, June 1.

William J. Robinson, Lapeer, Mich.; Michigan College of Medicine, Detroit, 1881; aged 64; a Fellow of the American Medical Association; died at his home, May 31, from septicemia.

Paul D. Carpenter, Pittsford, N. Y.; Jefferson Medical College, 1867; aged 52; a Fellow of the American Medical Association; died at his home, June 4, from peritonitis.

John Henry Hinchman, Richmond, Va.; Medical College of Virginia, Richmond, 1879; formerly a member of the Medical Society of Virginia; died at his home, about May 31.

Don Leroy Talcott, Crofton, Neb.; State University of Iowa, Iowa City, 1904; a member of the Nebraska State Medical Association; died at his home, May 26.

William S. Purkhiser, Moscow, Ohio; Eclectic Medical Institute, Cincinnati, 1898; aged 53; for several terms coroner of Clermont County; died at his home, June 4.

Watson F. Quinby, Wilmington, Del.; Jefferson Medical College, 1847; aged 93; one of the original experimenters with aircraft; died at his home, May 26.

Aurelia Springer, Lewiston, Maine; New England Female Medical College, Boston, 1872; aged 82; died in the Maine General Hospital, Lewiston, June 3.

Frank Oakley Stockton, East Orange, N. J.; College of Physicians and Surgeons in the City of New York, 1881; aged 58; died at his home, May 27.

Joseph W. Binckley, Canton, Ohio; Cleveland University of Medicine and Surgery, 1867; aged 80; formerly mayor of Canton; died at his home, June 1.

Warren Lee Hummer, Greenfield, Iowa; University of Nebraska, Omaha, 1904; aged 43; died in a hospital in Omaha, May 28, from nephritis.

James J. Choate, Los Angeles; Washington University, St. Louis, 1879; died about June 1, from heart disease, while making a professional call.

Archibald W. Rhea, Seattle; (license, Washington, 1896); a practitioner since 1860; aged 76; died at the home of his son in Tacoma, May 21.

Orville Juan Perkins, Chicago; Bellevue Hospital Medical College, 1878; aged 68; died at his home, June 14, from valvular heart disease.

Jesse Braman, Wadhams, N. Y.; University of Vermont, Burlington, 1884; aged 64; died at his home, May 28, from cancer of the rectum.

Lewis Robert McFarland, Transfer, Pa.; Eclectic Medical Institute, Cincinnati, 1883; aged 68; died at his home, May 15, from diabetes.

George E. White, Nashville, Tenn.; (license, Tennessee, 1911); aged 41; died at his home, April 23, from traumatic lobar pneumonia.

John K. Stone, Arlington, Texas; Texas Medical College and Hospital, Galveston, 1877; aged 65; died at his home, May 27.

Robert A. McKinney, Lagrange, Texas; University of Pennsylvania, Philadelphia, 1870; aged 73; died at his home, May 30.

Merton Reynolds Streeter, Oshkosh, Wis.; Rush Medical College, 1889; aged 52; died at his home, May 28, from nephritis.

Uriah Irvin Ward, Wichita, Kan.; University of Wooster, Cleveland, 1865; aged 80; died in the Masonic Home, Wichita, May 19.

Alexander Hitchcock, Port Clinton, Ohio; University of Wooster, Cleveland, 1872; aged 70; died at his home, May 27.

Elwood Holaday, West Elkton, Ohio; Pulte Medical College, Cincinnati, 1886; aged 64; died at his home, May 31.

Evan Edmiston Gwynne, Chicago; Hahnemann Medical College, Chicago, 1879; died at his home, about June 5.

Edwin Charles Loomis, Perrysville, Ind.; (License, Indiana, 1898); aged 72; died at his home, May 27.

Leon M. Rosenson, Brooklyn; University of Kharkov, Russia, 1887; aged 54; died at his home, June 3.

Marriages

CAPT. RALPH THOMAS KNIGHT, M. R. C., U. S. Army, Minneapolis, on duty with the Mobile Surgical Operating Unit, Allentown, Pa., to Miss Phoebe Clara Hill, of Lincoln, Neb., at Mount Vernon, N. Y., June 4.

LIEUT. CLAYTON JAMES HYSLOP, Chicago, on duty at Camp Wheeler, Macon, Ga., to Miss Edna Forsythe, Galesburg, Ill., at Macon, Ga., June 8.

LIEUT. ROBERT JAY COOK, M. R. C., U. S. Army, Boston, to Miss Edith M. Valet, at Chickamauga Park, Ga., June 3.

LIEUT. EDWIN FRANKLIN SYROP, M. R. C., U. S. Army, Baltimore, to Miss Rena Fleischman, recently.

WILLIAM WILSON MERIWETHER, Montgomery, Ala., to Miss Mattie D. Hudson, of Macon, Ga., June 19.

LOUIS BERNARD SAMAINE, Mulliken, Mich., to Miss Dorthia Nichols, of Charlotte, Mich., May 27.

DAVID WOLIN, Rochester, N. Y., to Miss Lillian Feinbloom, of Poughkeepsie, N. Y., May 6.

RALPH LEROY THOMPSON, to Mrs. Elizabeth S. Schuyler, both of St. Louis, May 28.

CHARLES WENDELL GAREY, to Miss Margaret Fowler, both of Quincy, Mass., June 1.

VICTOR ALBERT WILLIAMS, to Miss Mary Bryan, both of Pittsburgh, June 3.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SEVERAL "MIXED" VACCINES NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The "mixed" vaccines which are discussed in the reports that follow were considered by the Council during the past year because inquiries had been received in regard to them.

In publishing these reports it is desirable that the attitude of the Council toward "mixed" vaccines again be stated. In view of the rapid development of bacterial therapy, the possibility for harm that attends the use of bacterial vaccines and the skepticism among experienced clinicians as to the value of vaccines representing a combination of organisms, the Council has felt that it should scrutinize the claims for such agents with exceptional care and that there should be admitted to New and Nonofficial Remedies only those vaccine mixtures for which there is acceptable evidence to indicate that the use of the particular mixtures is rational.

In considering the subject the Council has borne in mind the fact that in many institutions in which cases are studied and the results of therapeutic measures carefully observed and controlled, vaccines of any sort are practically never used—certainly here the stock mixed vaccine has no recognition. Experienced clinicians have generally come to the conclusion that mixed vaccines have no specific action and that any effect they may produce is due to a non-specific protein reaction.

As set forth in the reports, in no case was the evidence submitted by the proprietors sufficient to establish the claims made for the preparations. Hence none was accepted for New and Nonofficial Remedies.

The preparations that form the basis for the accompanying reports are only a few of the many that are being made and sold by some biological houses. Doubtless many of those not dealt with in this report are equally irrational and sold under claims equally—or probably even more—unwarranted than those with which the present report deals.

W. A. PUCKNER, Secretary.

Mixed Vaccines-Abbott

In response to inquiry the Council undertook a consideration of the following "mixed" vaccines sold by the Abbott Laboratories:

M. Catarrhalis-Combined-Bacterin, said to contain killed Micrococcus catarrhalis, Bacillus Friedländer, Pneumococci, Streptococci, Staphylococcus aureus and Staphylococcus albus.

B. Coli-Combined-Bacterin, said to contain killed Streptococcus viridans, Streptococcus hemolyticus and Bacillus coli.

Pertussis-Combined-Bacterin, said to contain killed Bacillus pertussis, Pneumococci, Streptococci, Staphylococcus albus, Staphylococcus aureus and Micrococcus catarrhalis.

Streptococcus-Rheumaticus-Combined-Bacterin, said to contain killed "Streptococci (Rheumaticus, Viridans, etc.)" and Pneumococci.

Streptococcus-Viridans-Combined-Bacterin, said to contain killed Streptococcus viridans, Streptococcus hemolyticus, Pneumococcus and Staphylococcus albus.

The Abbott Laboratories were asked to assist in the investigation of these products and to submit evidence to establish their eligibility for admission to New and Nonofficial Remedies. The manufacturer was informed that the Council accepts "mixed" vaccines or bacterins, provided the usefulness of these products is established by acceptable clinical evidence, and references to the literature bearing on the value of the preparations were requested.

The Abbott Laboratories submitted specimens of the products, the advertising matter therefor and a considerable list of references to current literature; all of which was transmitted to the Committee on Serums and Vaccines for consideration. In due time a referee of the committee submitted the following report:

THE COMMITTEE'S REPORT

The referee has studied the literature covered by the references submitted. In general the articles are favorable to the use of vaccines, though many of these papers do not consider "mixed" vaccines; indeed, a number of the articles do not discuss treatment at all, but are devoted entirely to the consideration of etiology of the disease. Many of the papers are by those who are obviously overenthusiastic on the subject of the use of biologic preparations. One paper—not included in the references submitted by the Abbott Laboratories—records an alarming reaction following a dose of mixed vaccine; no claim is made that improvement followed.

The following comments on the submitted references are offered:

M. Catarrhalis - Combined - Bacterin.—Only four of the nine references given deal with the therapeutic use of the vaccine. The reported results in general were favorable, but sometimes in the discussion evoked by certain of the papers, views the reverse of those expressed by the author were brought forward. The enthusiasm of one writer is shown in his statement that following the use of vaccine in cases of carbuncle complicating diabetes the sugar in the urine disappeared or was reduced. One observer, who reports excellent results in nasal and pharyngeal catarrh, speaks of certain vaccines as "bulk goods," while another considers "——'s No. 7" as the proper thing. It is evident that the reports are not based on careful, scientific data, or such unscientific definition of the product employed would not be used.

B. Coli-Combined-Bacterin.—In the references cited in support of this preparation the following general statements are noted: One enthusiastic writer says, "It must be recognized that we have no satisfactory explanation of the action of vaccines, and their use at present is empirical." One author dwelt on the superiority of autogenous vaccines but admits that occasionally stock vaccines are indicated. One vaccine therapist in concluding an article states, "It is simply impossible to practice modern urology without our modern biologic products." Yet it is a well-known fact that many successful and capable genito-urinary surgeons avoid the use of vaccines, mixed or simple.

Pertussis-Combined-Bacterin.—These reports are uniformly favorable, but are not controlled and their value is not to be compared with a recent report from the New York City Department of Health which indicates that the vaccine is practically valueless. It is noted, further, that one of the articles cited which dealt rather fully with the treatment of pertussis did not mention vaccines.

Streptococcus-Rheumaticus-Combined-Bacterin.—The references cited in support of the preparations by the manufacturer give no support whatever for the use of mixed stock vaccines. The first reference deals with the relation of Streptococcus viridans to arthritis deformans and endocarditis and reports the following cases:

Case 1.—Vaccine case—improvement after eight months.
Case 2.—Slight improvement following use of vaccine.
Case 3.—Slight improvement following use of vaccine.
Case 4.—Marked improvement.
Case 5.—Prompt improvement.
Case 6.—Vaccine not mentioned.
Case 7.—Vaccine followed by slight improvement.

In each of the cases other methods of treatment were used. The paper shows the etiologic relation of Streptococcus viridans rather than the value of vaccines. There is no indication that stock vaccines were used, though the paper is not clear on this point. The second paper deals with the application of vaccine therapy in the treatment of arthritis. This paper is by a man who is avowedly an enthusiast on vaccine therapy. The indications are that he generally used a mixed autogenous vaccine, but the reports of cases are not always clear. This writer apparently makes no serious attempt at the classification of the joint conditions he treats. The third reference is a purely experimental study and has no bearing on the use of vaccines in treatment. The fourth article was admitted by the manufacturer to be "negative as regards evidence." The fifth reference specifically states that "the vaccine must be autogenous." The sixth reference deals

with the experimental production of appendicitis by the use of diplococci, and has not the most remote bearing on the use of vaccines in the treatment of rheumatism.

Streptococcus - Viridans - Combined - Bacterin.—The article which bears evidence of more care than the others admits that we are not in position to state the value of vaccines in pyorrhea but the author believes they may have value supplementary to local treatment.

It is not surprising that a large number of favorable reports can be accumulated when we appreciate how promptly men report what they consider to be their successes and how commonly they leave their failures unrecorded. Bearing in mind the fact that these stock mixed vaccines, though before the profession for many years, have not been used, or continued in use, in hospitals where work is rigidly controlled and that they are used practically not at all in the large government hospital service, a candid critic must hold that there is no substantial evidence in favor of the therapeutic use of a mixed vaccine, certainly not for stock "goods" and that probably there is but a limited field for the employment of autogenous vaccines.

The referee calls attention to a shift in the advertising matter on vaccines—the tendency to recommend vaccines to be used in conjunction with drugs. A heading in the Abbott booklet reads, "The Biologics Do Not Replace Drugs"; and the paragraph speaks of serums and bacterins as "new tools, supplemental to those we already have, but not replacing them." . . . "We need them both."

The referee recommends that the several mixed vaccines discussed in this report be not accepted on the grounds that satisfactory evidence of their value is wanting.

Having been endorsed by the Committee on Serums and Vaccines the Council adopted the report and declared M. Catarrhalis-Combined-Bacterin, B. Coli-Combined-Bacterin, Pertussis - Combined - Bacterin, Streptococcus-Rheumaticus-Combined-Bacterin and Streptococcus - Viridans - Combined-Bacterin ineligible for admission to New and Nonofficial Remedies.

Catarrhal Vaccine Combined-Lilly and Influenza Mixed Vaccine-Lilly

Because of inquiry received, the Council requested Eli Lilly and Company to aid in determining the acceptability of the following products for New and Nonofficial Remedies: "Catarrhal Vaccine Combined," said to contain killed cultures of the Bacillus of Friedländer, Micrococcus catarrhalis, Staphylococcus aureus and albus, Pneumococcus and Streptococcus; "Influenza Mixed Vaccine," said to contain killed cultures of Staphylococcus albus and aureus, Streptococcus, Pneumococcus, Micrococcus catarrhalis and Bacillus influenzae.

Lilly and Company sent the circulars, etc., used in advertising these products. A circular for "Catarrhal Vaccine Combined" contained the following claim:

"Catarrhal Vaccine has been especially useful in many respiratory infections, including bronchitis, pharyngitis, rhinitis, chronic catarrh and in the mixed infections of pulmonary tuberculosis."

A circular for "Influenza Mixed Vaccine" contained the following:

"The vaccine is useful in the treatment of influenza and ordinary colds, and in any infection in which the Bacillus influenzae is the causative agent."

An advertising pamphlet contained the following:

"Catarrh, Acute and Chronic; Colds, Influenza.—The micro-organisms capable of producing catarrhal conditions of the nose and pharynx and most commonly isolated are B. Friedländer, M. catarrhalis, staphylococcus, pneumococcus (in infections beginning in the larynx), *B. influenza* and streptococcus. These organisms are found normally in the respiratory passages and acquire virulence only when resistance has been lowered through overwork, exposure to cold, etc.

"The results following the use of Catarrhal Vaccine Combined (in the non-epidemic forms) and Influenza Mixed Vaccine (in the epidemic types) have been very satisfactory, due to the great vascularity of the tissues. Acute attacks are aborted altogether or shortened in duration and the danger of complications greatly minimized."

No evidence was submitted which warrants the preceding claims nor is the Council aware of any reliable testimony to indicate that the administration of the mixtures here discussed is warranted or desirable. On the recommendation of the Committee on Serums and Vaccines the Council voted that "Catarrhal Vaccine Combined-Lilly" and "Influenza Mixed Vaccine-Lilly" be not included in New and Nonofficial Remedies because satisfactory evidence of their value is wanting.

Influenza Serobacterin Mixed-Mulford

Because of inquiry received, the Council took up the consideration of "Influenza Serobacterin Mixed-Mulford," and requested the Mulford Company to present evidence to establish the admissibility of the preparation to New and Nonofficial Remedies. The Mulford Company sent specimens of the serobacterin in question, an advertising circular and a letter by the director of its Biologic Laboratories.

According to the label on the package, the preparation is made from the following organisms: Bacillus influenzæ, Staphylococcus aureus, Staphylococcus albus, Streptococcus, Pneumococcus and Micrococcus catarrhalis (group). This mixture is recommended by the manufacturer:

"For the prophylaxis and Treatment of Common Colds, Mixed Infections of the Respiratory Mucous Membranes, Acute and Chronic Catarrhal Conditions of the Nose, Throat and Respiratory Passages."

No evidence is submitted for this recommendation except that in "colds and bronchitis and the other common infections of the upper respiratory passages . . . five or six bacteria are very commonly present—two or more of them are nearly always present . . . ," and the letter by the director of the Mulford Biologic Laboratories expressing the belief that in his own case the use of the mixed vaccine has aborted or prevented colds.

As regards the use of this complex biologic preparation: First, the cause of common colds is, at the present time, quite unknown. One of the most striking things is that at the beginning of a cold the organisms to be cultivated from the nasal mucous membrane are very few in number and there is no uniformity in the type of organism found. If some one of the well-known organisms (Streptococcus, Staphylococcus, Pneumococcus, Micrococcus Catarrhalis, Influenza Bacillus, etc.) were responsible, we should expect to find one of them preponderating and in overwhelming numbers. This is far from the case. After the duration of the cold for a day or two with the increased production of mucus and apparently with the infection of a mucous membrane whose powers of resistance have been greatly lowered, bacteria of all kinds are to be found in immense numbers. There is considerable reason for believing that an ultramicroscopic organism is responsible for this condition (See Foster, *Journal of Infectious Diseases*, November, 1917, **21**, 451).

Second, there is no acceptable clinical evidence that vaccination with the influenza bacillus, the Streptococcus, the Pneumococcus or the Micrococcus Catarrhalis will influence the course of an infection due to one or the other of these organisms. It has been repeatedly found that a staphylococcus vaccine is of a certain degree of value when the infection with the staphylococcus is localized, but it is well known that general systemic infections with the staphylococcus are not at all benefited.

Third, the letter submitted as evidence by the Mulford Company is not convincing. The Council is not prepared to accept evidence of this sort unless it is in volume large enough to justify a definite conclusion.

Holding that there is no evidence for the value of this mixture, the Council declared "Influenza Serobacterin Mixed-Mulford" inadmissible to New and Nonofficial Remedies because its use is illogical.

Sherman's Mixed Vaccine No. 40

Because of inquiry received the Council decided to consider this preparation and requested the manufacturer, G. H. Sherman, Detroit, Mich., to submit evidence in support of the claims made for it.

This vaccine is said to be made from killed cultures of Streptococcus, Pneumococcus, Micrococcus catarrhalis, Staphylococcus aureus, and Staphylococcus albus. In the printed matter sent out by G. H. Sherman this vaccine is recommended for hay-fever, in which it is stated that some of the symptoms are due to bacterial invasion of the respiratory mucosa; for tonsillitis, both as a remedy and as a prophylactic against rheumatic and other sequelae; for "throat

infections"; for rhinitis with the claims that acute coryza can be aborted within twenty-four hours; for pneumonia in which it is advised for all stages; for laryngitis, for bronchitis, and for asthma.

No acceptable evidence was submitted as to the value of the product in the treatment of any of the foregoing conditions. In view of what is known about non-specific reactions, it seems likely that any influence which this vaccine may have on the divers conditions enumerated by the manufacturer, is due to this, rather than to the combination of organisms used in its preparation.

On the recommendation of the Committee on Serums and Vaccines, the Council declared "Sherman's Mixed Vaccine No. 40" ineligible to New and Nonofficial Remedies because the therapeutic claims made for it are unwarranted (Rule 6) and because the combination, in view of its complexity, is irrational and detrimental to sound therapy (Rule 10).

Correspondence

PROCAIN AND NOVOCAIN IDENTICAL

To the Editor:—It appears that in certain quarters the attitude is taken that the local anesthetic sold as procain is not identical with that marketed as novocain. The Subcommittee on Synthetic Drugs of the National Research Council believes it important that this misunderstanding should be corrected and hence offers the following explanation:

The monohydrochlorid of para-amino-benzoyldiethyl-aminoethanol, which was formerly made in Germany by the Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst A. M., and sold under the trademarked name "Novocaine," is now manufactured in the United States. Under the provisions of the Trading with the Enemy Act, the Federal Trade Commission has taken over the patent that gave monopoly for the manufacture and sale of the local anesthetic to the German corporation, and has issued licenses to American concerns for the manufacture of the product. This license makes it a condition that the product first introduced under the proprietary name "Novocaine" shall be called procaine, and that it shall in every way be made the same as the article formerly obtained from Germany. To insure this identity with the German novocain, the Federal Trade Commission has submitted the product of each firm licensed to the A. M. A. Chemical Laboratory to establish its chemical identity and purity, and to the Cornell pharmacologist, Dr. R. A. Hatcher, to determine that it was not unduly toxic.

So far the following firms have been licensed to manufacture and sell procain: The Abbott Laboratories, Ravenswood, Chicago; Farbwerke-Hoechst Company, New York; Rector Chemical Company, Inc., New York, and Calco Chemical Company, Bound Brook, N. J. Of these, the first three firms are offering their products for sale at this time, and have secured their admission to New and Nonofficial Remedies as brands of procain which comply with the New and Nonofficial Remedies standards.

While all firms are required to sell their product under the official name "Procaine," the Farbwerke-Hoechst Company is permitted to use the trade designation "Novocaine" in addition, since it holds the right to this designation by virtue of trademark registration.

In conclusion: Procain is identical with the substance first introduced as novocain. In the interest of rational nomenclature, the first term should be used in prescriptions and scientific contributions. If it is deemed necessary to designate the product of a particular firm, this may be done by writing Procaine-Abbott, Procaine-Rector, or Procaine-Farbwerke (or Procaine [Novocaine brand]).

JULIUS STIEGLITZ, Chicago.
Chairman, Subcommittee on Synthetic Drugs, National Research Council.

COMMENT.—Physicians should adopt the Federal Trade Commission's recommendation to use the official name of the licensed drugs in connection with all written articles and prescriptions, and if the proprietary brand name is to be used, to place this side by side with the official name.

The official names so far adopted by the Federal Trade Commission are:

Arsphenamine for salvarsan, diarsenol and arsenobenzol, etc.
Neoarsphenamine for neosalvarsan, neodiarsenol and novarsenobenzol, etc.
Barbital for veronal.
Barbital-sodium for medinal and veronal-sodium.
Procaine for novocaine.
Procaine nitrate for novocaine nitrate.
Phenylcinchoninic acid for atophan.

SERUM DIAGNOSIS OF SYPHILIS

To the Editor:—Regarding the communication of Dr. Hindman (THE JOURNAL, May 25, 1918, p. 1561) in which he states that "sodium acetate [recommended by me for preservation of complement, THE JOURNAL, Sept. 22, 1917] forms a precipitate with some guinea-pig serums," let me state, after considerable experience with this method, that no such precipitate occurs from acetate solutions up to 25 per cent. strength. Solutions above this strength may cause a crystalline precipitate, which can be sedimented off and does not interfere in any way with the complement fixation reaction.

In regard to his observation as to the possibility of getting a negative reaction in a weakly positive case, on account of the sharp reaction or possible overaction of acetated complement, allow me to suggest that this is a matter entirely of exact technic.

In my experience, which has been entirely with guinea-pig serum, I found that in using acetated complement in which the complementary unit has been stabilized, one must be much more exact in the technic (as excess would give overactivity) than in handling an unpreserved complement in which the complementary activity is constantly diminishing, especially in warm weather.

Therefore the unit not only of the guinea-pig complement but also of the amboceptor, the antigen and the complementary unit for each individual batch of red cells (see my note, THE JOURNAL, Nov. 17, 1917, p. 1728) must be determined by titration. If, then, the patient's serum is inactivated to do away with its varying content of complement which would act as excess, one will not, when using titrated units of acetated complement, get any negative reactions in weakly positive cases.

B. W. RHAMY, M.D., Fort Omaha, Neb.
Captain, M. R. C., U. S. Army.

THE CONTROL OF VENEREAL DISEASE IN THE ARMY

To the Editor:—Owing to the great interest awakened in the morbidity of venereal diseases incident to the prime necessity of a supply of healthy, vigorous manhood with which to win the war, the public is now learning how vitally necessary it is to keep undefiled the spring of that stream not alone by sanitary regulations of extracantonment zones but also of the cities and towns from which our soldiers enlist or are drafted.

We all know the report, how well founded I cannot say, that Germany sent a flood of prostitutes to infect and disable the French and British troops; but whether Germany had anything to do with it or not, the soldier in the hospital from a venereal disease is just as much a noncombatant as a soldier disabled in combat. Moreover, he occupies and demands shelter, medicines, transportation, beds, bedding, nurses and doctors, all of which tax the military resources and to which he should not be entitled since he takes an oath to defend the United States against all their enemies and not to go to bed sick and to that extent aid Germany.

Now that we are alive and anxious to do, for military reasons, what we would not do for purely moral reasons or public health reasons in time of peace, we see plainly

that prostitution is pro-German and that every one engaged in the occupation of prostitution or aiding or abetting it by pandering or renting rooms or buildings for its practice is an enemy of the Republic and pro-German.

I believe, therefore, that as a legal measure two things would cut to the root: 1. Punish all landlords, hotel managers, boardinghouse keepers and other persons who maintain places for the practice of prostitution by a term of years in a penitentiary. 2. Punish all prostitutes by restraint in internment camps for treatment and segregation during the war. I do not suggest fines because the traffic is already burdened with high rentals and graft bribes and could no doubt stand more, because those whom this act is designed to reach will gladly pay a nominal fine, viewing it very lightly, too, as a tax laid by the state on the traffic, which is a matter to our minds unthinkable.

Frank Thomas Woodbury, M.D.,
Camp Gaillard, C. Z.
Lieutenant-Colonel, M. C., U. S. Army.

"THE VALUE OF THE WASSERMANN REACTION"

To the Editor:—Referring to the article "The Value of the Wassermann Reaction: A Reply," by Drs. Larkin, Levy and Fordyce (The Journal, June 1, 1918), may I ask the courtesy of a few lines of space; although Dr. Symmers needs no protector, the responsibility for publishing Dr. Symmers' article which they criticize being entirely mine. At a future date Dr. Symmers will answer the points which the authors criticize.

The article by Dr. Symmers was read and approved by me as director of laboratories of Bellevue Hospital at that time. Dr. Symmers had nothing to do with the performance of the Wassermann reactions. The methods employed in the pathologic department of Bellevue Hospital are well known, as a description was published by Dr. Cyrus W. Field, and they thus became public property. I might add that Dr. Field and myself were members of the committee appointed by Dr. Haven Emerson several years ago to bring harmony of methods into the various laboratories, public and private, of New York City, and that, therefore, we believe ourselves to be entirely familiar with the details of the technic of the Wassermann reaction. The laboratory at Bellevue Hospital was one of the first to make routine Wassermann examinations, and for several years every patient entering Bellevue Hospital and remaining for a period of three days or longer was thus investigated, so that many thousands of reactions have been made. Bellevue Hospital was fortunate, moreover, in having the expert services of serologists of repute, such, for example, as Dr. Cyrus W. Field, and their co-workers were always men of training and ability.

In regard to the matter of careless postmortem observations, I may state that, as director of laboratories of Bellevue Hospital, I saw most or nearly all of the necropsies and personally corrected all postmortem records during the thirteen years of my incumbency. Any fault that is to be found with the observations is largely mine, and I am willing to assume the responsibility for it, although in fairness to Dr. Symmers it should be stated that, during practically the whole of the Wassermann era, he has been actively associated with me at Bellevue Hospital and has acted in an advisory or supervisory capacity in a great many additional postmortem and microscopic investigations.

The assumption of Drs. Larkin, Levy and Fordyce that because no mention of histologic examinations was made in the paper by Dr. Symmers, this branch of activity at Bellevue Hospital is neglected, is unwarranted, since it has always been one of the rigid rules of the laboratory to keep pieces of the viscera of all bodies coming to necropsy, and in the great majority of cases the histologic preparations still form part of the laboratory records. I should also like to call attention to the fact that Drs. Larkin, Levy and Fordyce have been guilty of the negligence of which they accuse us, namely, they do not state the methods by which they have come to the conclusion that they were dealing with syphilis. Moreover, in detailing the remarkable successes which they have had, clinically and pathologically, with the Wassermann reaction, they neglect to detail the serologic methods employed, while at the same time they severely criticize Bellevue Hospital for a like omission, in spite of the fact that a report of our methods has been published.

Charles Norris, M.D., New York.
Formerly Director of Laboratories, Bellevue and Allied Hospitals.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SLOUGHING OF GUMS AFTER INSTALLATION OF GOLD BRIDGE

To the Editor:—A perplexing problem presents itself here in my office which is associated with that of a dentist, Dr. J. Wallace. His patient was referred to me because of a sloughing of the mucous membranes of the mouth taking place thirty-six hours after a gold bridge had been placed therein. The sloughing seems most pronounced at the immediate point of contact with the gold, which was 22 carats fine. Phosphoric acid enters into the cement, but at the crown margin the sloughing is not pronounced. The symptoms are those of pronounced salivation. The cement used is Fellowship Cement. Could you shed some light on the subject? Many have used this cement without any ill effects, and this is the first case of this nature to come to my attention.

D. H. Pettingell, M.D., Ely, Nev.

Answer.—From the meager description of the case, it is difficult to solve the problem offered. However, it is certain that neither the 22 carat gold nor the cement used was a cause of the sloughing of the gums. If a local anesthetic was injected into the gums during the fitting or setting of the bridge, it may have caused the destruction of the adjoining tissues. This may follow the use of local anesthetics containing suprarenal products. It was rather soon for an infection to result, though the fitting of the abutments may have preceded the setting of the bridge several days. If this were the case, the gums may have been infected in the primary operation. The description leads one to think of what is known as Gilmer's disease—acute ulcerous gingivitis, or, as it is sometimes called, "trench mouth." Acute ulcerous gingivitis is due to the *Bacillus fusiformis*. It is a rather uncommon affection of the gums, commencing with ulceration of the gum margins about a few teeth. The gums are destroyed rapidly, leaving a grayish deposit not unlike that found covering the so-called "mucous patches." There is extensive salivation, slight rise in temperature, and fetid breath. The treatment is indicated by the nature of the organism causing it, which is an anaerobe; that is, an oxidizing agent such as hydrogen peroxid, with a weak solution of potassium permanganate to offset the odor. Calomel in small doses is indicated.

Incineration.—The incineration of dead human bodies is a practice which, while desirable from the modern point of view, grows slowly on account of lack of popular knowledge concerning it, or on account of religious, superstitious or social prejudices. It needs the impetus of a strong, continuous propaganda to make it the sole method of disposing of the dead. Figures furnished by Dr. Charles Scott Miller, chief of the division of vital statistics of the bureau of health and charities of Philadelphia, show that from 1876, when the first crematory was built in the United States, to and including 1915, the total number of bodies incinerated in the United States was 110,012, and only since 1913 has the annual figure reached the 10,000 mark. In 1913 the number was 10,183, in 1914 it was 11,239, and in 1915 it was 12,767. At present about half the states have crematories. The tremendous impetus given by the war to the study and practice of better sanitation should include a better knowledge and extension of incineration of the dead. While distinctly a sanitary question in some of its aspects, the matter of incineration of the dead, when rightly understood, should appeal even more strongly to sentiment as compared with earth burial.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 9. Chairman, Dr. S. W. Welch, State Capital, Montgomery.

ARIZONA: Phoenix, July 2. Sec., Dr. Allen H. Williams, 219 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 25. Sec., Dr. C. B. Pinkham, State Capitol, Sacramento.

COLORADO: Denver, July 2. Sec., Dr. D. A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: New Haven, July 9-10. Sec. Regular Bd., Dr. Chas. A. Tuttle, 196 York St., New Haven; Sec. Eclectic Bd., Dr. J. E. Hair, 720 State St., Bridgeport; Sec. Homeo. Bd., Dr. E. C. M. Hall, 82 Grand Ave., New Haven.

DISTRICT OF COLUMBIA: Washington, July 9-11. Sec., Dr. E. P. Copeland, The Rockingham, Washington.

INDIANA: Indianapolis, July 9-11. Sec., Dr. W. T. Gott, 84 State House, Indianapolis.

MAINE: Augusta, July 2-3. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, July 9-11. Sec., Dr. W. P. Bowers, Rm. 501, 1 Beacon St., Boston.

NEW HAMPSHIRE: Concord, June 24-25. Sec., Dr. W. T. Crosby, Manchester.

NEW YORK: Albany, Buffalo, New York City and Syracuse, June 25-28. Sec., Dr. W. J. Denno, Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 24-28. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.

NORTH DAKOTA: Grand Forks, July 2-5. Sec., Dr. G. M. Williamson, Grand Forks.

OKLAHOMA: Oklahoma City, July 9-10. Sec., Dr. J. J. Williams, Westherford, Okla.

OREGON: Portland, July 2. Sec., Dr. Herbert S. Nichols, 802 Corbett Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 9-13. Sec., Mr. N. C. Schaeffer, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 11. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH DAKOTA: Deadwood, July 9. Sec., Dr. P. B. Jenkins, Wauhay.

UTAH: Salt Lake City, July 1-2. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

WASHINGTON: Tacoma, July 2. Sec., Dr. C. N. Suttner, 415 Old Nat'l Bldg., Spokane.

WEST VIRGINIA: Wheeling, July 9. Health Com., Dr. S. L. Jepson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 25-27. Sec., Dr. J. M. Dodd, Ashland.

Montana April Examination

Dr. S. A. Cooney, secretary of the Montana State Board of Medical Examiners, reports the written examination held at Helena, April 2-4, 1918. The examination covered 10 subjects and included 50 questions. An average of 75 per cent. was required to pass. Of the 17 candidates examined, 12 passed and 5 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago College of Medicine and Surgery	(1917)	75
Loyola University	(1916)	79.2
Rush Medical College	(1897) 77.5; (1901) 81.5; (1917)	78.1
State University of Iowa College of Medicine	(1891)	77.9
University of Louisville	(1892)	82.2
Maryland Medical College	(1903)	75.2
Harvard University	(1888)	89.5
University of Michigan Medical School	(1906)	77.6
John A. Creighton Medical College	(1917)	75.3
Medico-Chirurgical College of Philadelphia	(1915)	75
FAILED		
Chicago Homeopathic Medical College	(1901)	69.7
Keokuk Medical College, Coll. of Phys. and Surg.	(1901)	62.8
University of Minnesota, Coll. of H. M. and Surg.	(1895)	65.1
Ensworth Medical College	(1909)	34.1
Memphis Hospital Medical College	(1911)	62

Washington January Examination

Dr. C. N. Suttner, secretary of the Washington State Board of Medical Examiners, reports the written examination held at Spokane, Jan. 1-3, 1918. The examination covered 11 subjects and included 110 questions. An average of 75 per cent. was required to pass. Of the 32 candidates examined, 30, including 5 osteopaths, passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Denver College of Medicine	(1899)	77.3
Gross Medical College	(1899)	84
University of Colorado	(1914)	83.1
Chicago College of Med. and Surg.	(1916)	78.1, 79.1
Loyola University	(1916)	83.4
Rush Medical College	(1910) 80.9; (1916)	93.1
University of Illinois	(1916)	87.1
Medical College of Indiana	(1898)	79.6
State University of Iowa, Coll. of Homeo. Med.	(1910)	86.8
Baltimore Medical College	(1895)	93.3
Harvard University	(1911)	81.9
University of Minnesota	(1917)	79.5
Columbia University	(1916)	90.5
University of Buffalo	(1914)	92.2
Jefferson Medical College	(1908) 77.8; (1916)	82.1
University of Virginia	(1910)	88.7
Manitoba Medical College	(1916)	86.7
Trinity Medical College	(1900)	80.5
McGill University	(1913)	75.6
Kyoto Imperial University	(1904)	82.5
Kyushu Imperial University	(1908)	83.1
Okayanna Special Medical School	(1906)	86.4
FAILED		
Saginaw Valley Medical College	(1902)	54
University of Oregon	*	30.3

* Year of graduation not given; graduation not verified.

Missouri March Examination

Dr. G. H. Jones, secretary of the Missouri State Board of Health, reports the oral and written examination held at St. Louis, March 19-21, 1918. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 49 candidates examined, 42 passed and 7 failed. Eighteen candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1917)	90.9
University of Illinois	(1917)	85.4
Marion-Sims-Beaumont Medical College	(1903)	85.3
National University of Arts and Sciences (1918) 75.1, 77.1, 78.1, 80.1, 80.2, 81.1, 81.4, 81.6, 82.1, 82.1, 83.6, 84, 84.1, 84.2, 84.7, 84.9, 85.1, 85.1, 85.3, 85.4, 85.5, 85.9, 85.9, 86.4, 86.5, 87.1, 87.7, 88.6, 91.1.		
St. Louis Coll. of Physicians and Surgeons (1915) 75; (1917)		79.3
St. Louis University (1918) 82.9, 85.3, 87.1.		
Washington University	(1918)	90.5
John A. Creighton Medical College	(1917)	86.7, 89.8
University of West Tennessee	(1915)	75.1
Vanderbilt University	(1917)	85.1
FAILED		
National University of Arts and Sciences	(1918)	57.2
St. Louis University	(1905)	72.1
Meharry Medical College	(1916) 72.8; (1917)	66.1, 72.8
University of West Tennessee	(1915)	63.3, 68.4

College	LICENSED THROUGH RECIPROCITY Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1910) (1912)	Illinois
Illinois Medical College	(1908)	Illinois
University of Illinois	(1914)	Illinois
Keokuk Medical College	(1898)	Iowa
Hospital College of Medicine	(1897)	Kentucky
Maryland Medical College	(1905)	W. Virginia
Beaumont Hospital Medical College	(1888)	Iowa
Ensworth Medical College	(1909)	Kansas
St. Louis College of Phys. and Surg.	(1905) (1909)	Illinois
University Med. Coll. of K. C.	(1904) (1912) (1913)	Kansas
Medical College of Ohio	(1878)	Indiana
Meharry Medical College	(1915)	Kentucky
University of Tennessee	(1909)	Tennessee
Vanderbilt University	(1908)	Tennessee

Illinois February Examination

Mr. F. C. Dodds, superintendent of registration, Department of Registration and Education, reports the written examination held at Springfield, Feb. 6-7, 1918. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 65 candidates examined, 50 passed and 15 failed. The following colleges were represented:

College	Year Grad.	Total No. Licensed
PASSED		
Chicago Coll. of Med. and Surg.	(1908) (1916, 2) (1917, 17)	20
College of Phys. and Surg., Chicago	(1908)	1
Jenner Medical College	(1915) (1917)	2
Loyola University	(1916) (1917, 8) (1918, 2)	11
Rush Medical College	(1917)	7
University of Illinois	(1912)	1
Indiana University	(1917)	1
Keokuk Medical College, College of P. & S.	(1904)	1
Hahnemann Med. Coll. and Hosp. of Philadelphia	(1904)	1
Meharry Medical College	(1914) (1916, 2)	3
University of Tennessee	(1899)	1
University of Toronto	(1911)	1
FAILED		
Bennett Medical College	(1914)	1
Chicago College of Med. and Surg.	(1916, 2) (1917, 5)	7
Chicago Hospital College of Medicine	(1915)	2
Loyola University	(1917)	3
Meharry Medical College	(1912)	1
Queen's University	(1913)	1

Medicolegal

Physician Entitled to Damages for Eviction of Trespass

(Grammont Holding Co., Inc., v. Leilmann (N Y.), 168 N. Y. Supp. 29)

The Supreme Court of New York, Appellate Term, First Department, in reversing a judgment obtained by the plaintiff, and granting the defendant, a physician, a new trial, with $30 costs to him to abide the event, says that this action was brought to recover for rent of an apartment in a house owned by the plaintiff. The only matter litigated was the counterclaim of the defendant physician, based on acts of the plaintiff during the defendant's occupancy, which resulted in his abandonment of the premises. It appeared that the plaintiff undertook to reconstruct its building; that in the course of that work it disconnected the telephone service, stopped the operation of the elevator, and attempted to run pipes through the defendant's apartment; and that as a result of the work in the building water and large quantities of dust and plaster entered the apartment occupied by the defendant. There were also continuous loud noises and shocks generally accompanying the performance of the work which shook the premises. The defendant claimed damages by reason, among other things, of interference with his business as a practicing physician, and expense entailed in moving. The plaintiff urged that damages for an eviction were limited either to a nominal figure or at most to the difference between the rental value of the premises as they were and the rent reserved in the lease, but conceded that, in case the interference with the leased premises amounted substantially to a trespass, a more liberal measure of damages would be applicable. The evidence here presented a case wherein, short of deliberate personal violence offered to the defendant, the proof of trespass on the leased premises was overwhelming. By the very rule conceded by the plaintiff, therefore, the defendant was entitled to prove at least the loss of business which he suffered by reason of such interference. It was unnecessary to pass on all the items of damage which the defendant claimed and undertook to prove, as the evidence was excluded by the trial court. Indeed, the defendant's position did not rest solely on an eviction, but might perhaps with equal force be sustained on the theory of trespass alone.

Adulteration with Saccharin

(People v. Excelsior Bottling Works, Inc. (N. Y.), 168 N. Y. Supp. 570)

The Court of Special Sessions, City of New York, holds that the defendant, in keeping and offering for sale a beverage called strawberry soda, which contained saccharin, was guilty of violating Section 68 of the Sanitary Code of the board of health of the department of health of the city of New York, prohibiting the having, selling, or offering for sale of any adulterated or misbranded food, including beverages. The court holds that this section and a resolution of the board of health, to the effect that foods containing saccharin shall be deemed adulterated, were passed in pursuance of a reasonable exercise of the public power; and that they are not obnoxious, in any respect, to the provisions of the constitution of the United States, or of the constitution of the state of New York. The opinion of Chief Justice Russell says that the testimony in this case was very voluminous and covered about 477 pages of stenographic minutes. Eighteen witnesses were examined at length, several of whom were world-famed scientists, and eminent in the medical profession as food experts. This record, at least, showed that there is a difference of opinion among those best qualified to judge respecting saccharin and on the question of excluding it from foods. Saccharin is a substitute for sugar, and itself has no food value. Under the authorities, although as an ingredient of food it may not be deleterious, still its use can be absolutely prohibited. An article may be manufactured in imitation or semblance of a well known article in common use, and consumers or purchasers may be thus imposed on. Legislation intended to prevent such an article from being manufactured has been held valid. The legislature certainly cannot forbid or wholly prevent the sale of a wholesome article of food. But in forbidding the sale and use of saccharin as food, no attempt was made to prevent the sale of a wholesome article of food. Saccharin is not a food, but a product of coal tar, a synthetic substance from a laboratory. The object of such regulation was to prevent imposition and fraud. Nor will a suitable label afford a sufficient protection to the public against fraud. The blind and illiterate are entitled to the full protection of the law. Then, too, a certain amount of nourishment will surely be lost if saccharin is permitted to displace sugar as a sweetener.

Liability for Representations and Negligence or Incompetence of Physicians

(Denver & R. G. R. Co. v. Ptolemy (Colo.), 169 Pac. R. 541)

The Supreme Court of Colorado reverses a judgment obtained by the plaintiff for damages for personal injuries, because it holds that the evidence failed to justify the setting aside of a settlement previously made in consideration of the payment to her of $450, but which she alleged that she was induced to accept by reason of the false and fraudulent representations made to her by the defendant company's claim and by its physician as to her condition and the nature and extent of her injuries. The court says that the plaintiff had the burden of proving the charge that the defendant's agents—the physicians and the claim adjuster—deliberately and consciously misrepresented to her her physical condition, with intent to induce her to make the settlement, and that she was thereby induced to make it. To prove fraud the evidence must be clear, precise and indubitable. It could not be said that such evidence was presented in this case. The plaintiff herself testified only that the physician who had entire charge of the case, after her first day in the hospital, and during her stay there, stated "as his opinion" that her injuries were not serious. She now complained that she was, in fact, suffering from internal injuries, but in at least two places in her brief it was said that the defendant's physicians failed to discover such injury. Clearly, then, they were not and could not be guilty of fraudulent misrepresentation as to that injury. If they failed to discover it, that might indicate negligence on their part, but that was no part of the issue made by the pleadings. If the physicians were negligent or incompetent, the defendant would be liable for the results of such negligence or incompetence only in case it appeared that the defendant knew or should have known of the physicians' unfitness, and that, too, in a case wherein the pleadings presented that question. A physician's diagnosis is necessarily a matter of opinion, except in cases wherein the ailment is external and visible. There was in this record no evidence which even raised a suspicion that the statements made to the plaintiff as to her condition were not made in perfect good faith. Neither of the physicians who attended her for the defendant was present at the settlement, nor did they at any time take part in the negotiations for it. The attempt to invalidate the contract of settlement wholly failed.

Testicle Held to Be Member of Body

(State v. Sheldon (Mont.), 169 Pac. R. 37)

The Supreme Court of Montana, in affirming a conviction of the defendant of the crime of mayhem in depriving a man of his right testicle, says that the sufficiency of the information depended on whether the right testicle of a male human being is "a member of his body" within the meaning of Section 8304 of the Revised Codes of Montana defining the crime of mayhem, and that the court thinks it so obviously is that any discussion of the matter is unnecessary. The contention that it is not was based on the claim that at common law the only members of the body within the definition of mayhem are those directly useful in fighting, such as to enable one to defend oneself or to annoy one's adversary. But however this may be, and there is room for doubt about it, the answer is that the Montana statute is not so restricted.

Social Medicine, Medical Economics and Miscellany

THE GREAT MELTING POT

The Amalgamation of Our Citizens Through the War

The Ambulance des Alliés, as its title implied, was equipped and operated for the Allies; at least that was the interpretation put on its name by the chief surgeon—an American. Consequently, when in due course of time our —th Division quietly slipped in and occupied an adjoining sector, where they literally rubbed elbows, company by company, with their French comrades in arms, proper steps were at once taken to receive our Amex's and give them a touch of home life. As this particular sector was only to be temporarily occupied by our troops, it had been judged more expedient not to have any of our sanitary formations in the zone of the lines of communications. A wounded American received first aid at his regimental aid station, from which post he was sent back to a French evacuation hospital for further treatment. As the Ambulance des Alliés was operated under the administrative supervision of the French Service de Santé, the transfer of wounded Americans to our formation presented no formidable difficulties. Our hospital boat could go up the river as far as division headquarters, making the question of transportation an exceedingly simple one.

When the first group of our wounded boys arrived in ambulances at the boat landing, saw the nurses in their smart uniforms, and heard the English language spoken, after having spent several days in a French hospital, they burst into tears.

A perusal of their "diagnosis tags," followed by short chats with one after the other of the first fifty or so American admissions, suggested the title for this story. Armenia, Ireland, Italy, Poland, Russia, Sweden, and the French province of Canada were all represented, often in the same company. A sturdy descendant of the Pilgrim fathers was flanked on either side by an offspring of the Ghetto and a Swedish emigrant; a Polish factory boy tried to converse in broken English with his neighbors, a French Canadian on one side, an Italian on the other; an irrepressible Irish lad flung Bowery jokes at an Armenian, the latter smiling his polite misunderstanding. They were all Americans, all doing their "bit" for the common cause of liberty; what mattered a few generations more or less, spent on American soil? "We tutti have to crossa da bigga oceano soma tim," said Tony Damiano.

Ah! the proud look on the boys' faces as they one and all vouchsafed the information that they were not drafted but had volunteered. That the Middle West is the great melting pot for the downtrodden masses of the Old World is a fact long admitted by all; but that this particular division, recruited in the New England States, should contain the same elements in its cadres was interesting and significant.

Beppo Yanko, called "Macaroni" by the nurses, was as handsome a specimen of southern Italy as one could wish to see. His birthplace was Calabria, his country: "Me Americano, voluntario! Me landa en America at ten years; me liva en Lawrence, Mass.—do averything—shina da shoe, worka da shov', sella da banan; Guerra he come, me fighta for ma new country; me soldier boy, var' fina ting; me wounda in da leg by big Germ'; me killa da son-of-a-gun, no care go-dam; killa some more soma day!" Good old macaroni! In spite of his queer handling of the English language, his comrades respected and treated him as one of their own—as a pal.

Maddy Archambault, lineal descendant of a long line of "voyageurs," was following the career of a lumber jack in the Maine woods when the call came to him and he enlisted in the nearby village. With his knowledge of "habitant" French, which managed to be understood wherever he went, Maddy had, immediately on landing in France, become the unofficial interpreter, go-between and purchaser of "extras" for his company mess. A quiet, modest, retiring sort of lad was our Maddy, yet, on his breast was the coveted Croix de guerre, which a French general had pinned on him for conspicuous bravery. His face and arms had been badly peppered by shrapnel, which made the boy sometimes wonder whether his best girl at home, up in the Maine woods, would still favor him with her smiles when he returned. Old boy, if Angéline is the right sort of girl, she will fasten her adoring and admiring eyes on your military cross, and feign not to see the absence of part of your nose and upper lip. Bon courage and good luck to you. With Duplessis, Labelle and Leclerc—all good old French Canadian names—you formed a quartet of sterling fighters; would that more of your kind could slip across the border and enter our army.

Iky Rhozinski, typical product of any large city ghetto, felt the importance of his new rôle in society. Gone were the sloping shoulders, pussy-foot gait and shifting eye, inherited traits which are the natural result of centuries of persecution. Iky stood like a flagpole and looked you straight in the eye; he had been wounded "in line of duty," suffered uncomplainingly and was secretly very proud of his bandaged and splinted limb; he felt that he was an American, and his comrades treated him as such.

To Walter Brodowski, Catholic, Iky should have been anathema, for there has never been any love lost between Catholics and Jews in unhappy Poland. The two frequently conversed together, now in broken English, now in Polish, apparently on the very best of terms.

Walter—he confided to me that he had been baptized Stanislas but had found Walter more comfortable for school purposes—was a typical Slav with tawny hair, high cheek bones, low forehead, dilated nostrils, large mouth and sad blue eyes. Several years of premature factory life had given him that dull, hopeless look so familiar to settlement workers. He was doing his manly best to overcome the old handicap, but it still lingered in gait and facial expression. Six months from now, if all goes well with him in the meantime, Stanislas will be completely emancipated from the old fetters, which had been prematurely crushing and aging him at home. He will be a real man. Just what his attitude will be toward his prewar "job" when he returns is one of the big problems for our sociologists to work out. Where are we going to get our future factory slaves from? Is a man who has breathed God's fresh air, slept under the starry heavens, and faced death unflinchingly going to return to the States in order again to punch the time clock and be known as plain No. 975, d—d Pollak?

Of course Timothy O'Neil had freckles, carroty hair, a stub nose and "pug" chin. Tim, enlisted belligerent in B Co., Nth Infantry, entered the hospital with "mitts" clenched and an angry gleam in his eye. Shot through the left foot, with the wound badly infected and needing immediate surgical attention, Irish Tim announced to all who cared to listen to him that it would take ten nurses and six surgeons to get him into the operating room. "Tim, my boy," said the surgeon quietly, patting him on the shoulder, "you will have to have your foot drained if you don't wish to lose it; take these crutches, walk with them to the operating room, and climb on the operating table yourself." Blue eyes looked into equally blue eyes for a few seconds; then a sheepish grin slowly spread over the lad's face as he picked up the crutches and said, "Yes, sir." From that moment, Tim became the star patient of his ward. Full of grit and determination, fairly bubbling over with native wit, he constituted the only necessary tonic, disbursing this commodity in continuous heroic doses. My last recollection of Tim, before a hurried evacuation to a safer zone, was when, leaning on his friendly crutches, he played ball with Iky—also on crutches—in the hospital yard, before an admiring crowd of convalescent English, French and American soldiers. Both were good pitchers and catchers; both stopped overhead balls with a crutch, and nobody sighed for a pennant game that day. How quickly a scene can change during war time! That same courtyard has, since that last happy afternoon, resounded with the daily and nightly rumble of ambulances, bringing in desperately wounded men to us from the nearby improvised lines.

Yan Jansen—no need to tell you that he was of sturdy Norse descent—had grown up to be a famous ski jumper 'way back in Minnesota; he was also an expert lumberman,

and had been coaxed to the Maine woods by the lure of war wages and a foreman's job. Neither job nor wages had been able to still the great call to duty, and Jansen had become an excellent ambulance driver, assigned to a French division which occupied a nearby sector. Of his Scandinavian origin, only the name and physique remained, for Yan had finished high school at home and now spoke French with a fluency which made him the envy of his less linguistically inclined comrades.

John Arda, a handsome, black haired, dark eyed Armenian, had given up pedling imitation Oriental rugs in Boston in order to show his gratitude toward his new fatherland. This was truly a holy war for John; his people in Armenia had not been heard from for two years, and he had given them up for dead—or worse. His face would light up with long suppressed passion as he recounted the tales of unprintable atrocities committed on his people under the guise of Kultur. Well did he know at whose door in Potsdam lay the real blame; whose were the brains which had engineered the wholesale Armenian deportations. Though wounded, Arda felt that he had given more than he had received, and he was eager to meet Fritz again and again on the battlefield.

As for the American-born Sammies—genuine Yankees most of them—they were in France because the honor of their fatherland had been trampled underfoot and they had enlisted in order to right a hideous wrong. Splendid, lovable fellows, all of them, many were mere children in worldly wisdom; a few of the older ones more or less sophisticated. With their strong, though boyish-looking faces, their manifest intelligence and splendid physique, they were the admiration of their French comrades. With the help of a smile, a hand-shake and a cigaret, new and mutually valuable international friendships were soon formed, and it was a joy to see Sammies and Poilus, on a sunny afternoon—rare treats, alas, in this part of France—basking in the sun and carrying out all sorts of impossible conversations in Frankingle or Inglefrank—depending on whether French nouns and verbs were being anglicized or English nouns and verbs were frenchified.

What a liberal education for one and all of them; what a rare opportunity for free exchange of thought! After this hideous war is over, will there evermore be such a thing as a d—d foreigner—at least among the Allies? Will not this great cataclysm which has befallen the civilized world, save the mark, bring about a better understanding among the people who have been gasping and struggling in our great melting pot? If it does, we, at home or in the field, will almost feel repaid for the suffering we are enduring and the sacrifices we are making, in order to see the struggle through to a victorious end.

GEORGE DE TARNOWSKY, France.
Major, M. C., U. S. R.

THE FRAMINGHAM EXPERIMENT IN TUBERCULOSIS

A report on the progress of the Framingham Community Health and Tuberculosis Demonstration has been issued in Monograph 1, Publication 1 of the General Series of publications which will be issued regarding the experiment. It is planned to issue three series of reports, the first a general series covering the program itself, educational, social and economic, a second medical series presenting the results of the health census, medical examination, tuberculin survey, etc., and a third sanitary series covering reports and statistics of sanitary and hygienic conditions among infants, in schools, factories, etc. The demonstration has been in operation a little more than a year, and this first publication gives an account of the foundations which have been laid. The main objectives are summarized as the thorough medical examination of a substantial proportion of the population, the discovery of tuberculosis, and lending assistance to the community in organizing its forces to meet its own health obligations. Under this plan expert examinations have been made of 5,000 persons, about one third of the population, with the object of discovering and placing under treatment and observation incipient, advanced or arrested cases of tuberculosis, of which about 200 have been found; a sanitary survey has been made covering infant conditions, schools, factories, food, milk, rural sanitation, vital statistics, etc.; a health census, a patriotic census of the man power resources of Framingham; a von Pirquet tuberculin survey of children between 1 and 7 years of age; a health camp for children; standards for the diagnosis, classification and treatment of children and adults, domestic science classes and home economic classes, the development of health educational work, etc., have also been among the accomplishments of the first year. The details of each of these divisions of effort will be given in subsequent publications.

Society Proceedings

COMING MEETINGS

American Academy of Ophth. and Oto-Laryn., Denver, Aug. 6-8.
American Ophthalmological Society, New London, Conn., July 9-10.
Idaho State Medical Association, Seattle, July 17-19.
Montana Medical Association, Butte, July 10-11.
New Jersey Medical Society, Spring Lake, June 25-26.
Oregon State Medical Association, Portland, June 27-29.
Southern Minnesota Medical Association, Winona, Minn., June 24-25.
Washington State Medical Association, July 10.
Western Roentgen Society, Colorado Springs, June 27-28.
Wyoming State Medical Society, Casper, Aug. 7.

THE AMERICAN GYNECOLOGICAL SOCIETY

Forty-Third Annual Meeting, held at Philadelphia, May 16-18, 1918

(Concluded from page 1885)

The Bladder of Women After Operation

DR. ARTHUR H. CURTIS, Chicago: Postoperative catheter cystitis is really urinary tract infection caused by residual vesical urine. An essential feature in the treatment of postoperative cases has been the prevention of urine stagnation in the bladder. In 465 consecutive operations the patients have been managed thus: All who complain of vesical distress are catheterized. Also, even when the power to void urine is present, catheterization is performed if residual urine is suspected. Furthermore, those patients who have required repeated catheterization are thereafter catheterized once daily immediately after urination, as long as residual urine is obtained. At the time of catheterization, 15 c.c. of one-eighth per cent. silver nitrate is instilled before the catheter is withdrawn. Medication consists of hexamethylenamin in amounts sufficient to maintain a positive formaldehyd test. In the presence of alkaline urine, acid sodium phosphate is added. Those who show idiosyncrasy to hexamethylenamin, or whose urine yields no formaldehyd, are treated with alkalis. In the presence of urinary tract infection, meats are permitted only twice a week. Seasonings of all sorts are forbidden, salt excepted. Sugar, sweets and pastry are limited. Under this plan, postoperative bladder troubles have disappeared. Retention of urine is a factor of the utmost importance in the etiology of pregnancy pyelitis. It is urged, therefore, that obstetric patients be tested for residual urine whenever carefully collected specimens reveal pus and bacteria. Through judicious catheterization, immediately after urination, these patients can often be saved from the danger of pyelitis.

DISCUSSION

DR. JOHN A. SAMPSON, Albany, N. Y.: After a radical operation for carcinoma of the cervix, severe cystitis is a common complication. I attribute the bladder disturbance to interference with the blood supply and with its function. Some of these patients, in whom there was incidentally a vesicovaginal fistula, were not troubled with cystitis, and I even went so far as to suggest that possibly in these severe cases the formation of a vesicovaginal fistula temporarily would obviate the cystitis. One of the most important ways of treating a severe cystitis is to establish free drainage and rest.

DR. GUY L. HUNNER, Baltimore: I agree that retention of urine is, perhaps, the chief factor, and this is most often due

to postoperative overdistention of the bladder. Interference with the circulation and traumatism to the bladder itself do not have an important bearing on the question of postoperative cystitis; but if these patients are allowed to go on after operation with overdistention of the bladder, we may get a partial paresis which may last for several days or weeks, creating a most favorable condition for infection to take place.

DR. J. RIDDLE GOFFE, New York: I should like to ask about the treatment after washing out the bladder.

DR. T. J. WATKINS, Chicago: We always pass a catheter as soon as the patient has any distress After a patient has been catheterized every two or three days, we also catheterize once a day after that until we are sure she is not carrying an excess of residual urine. Daily catheterization is stopped as soon as we are convinced that the patient is not carrying a large amount of stagnant urine.

DR. LEROY BROUN, New York: To what extent do you find residual urine, and in what quantity?

DR. T. J. WATKINS, Chicago: We almost invariably find a crippled bladder in women who have had to be catheterized every two or three days. Patients that require catheterization very seldom carry stagnant urine.

Tubal and Ovarian Hemorrhage: Its Etiologic Relation to Pelvic Hematocele and Extra-Uterine Pregnancy

DR. J. WESLEY BOVÉE, Washington, D. C.: Trauma plays a part in producing these hemorrhages. Hemorrhage from the fallopian tube may occur from general conditions that similarly affect other tissues. Venous stasis from circulatory disturbances or pressure from tumors may reasonably be included in a list of its causes. Ovarian hemorrhage may be confined within the ovary, constituting one or more hematomas, or it may take place into the peritoneal cavity, producing, if abundant, a hematocele. No other organ of the body is so frequently the seat of hemorrhage as is the ovary. Stromal hemorrhage is commonly preceded by infection of the ovary. In but few cases have correct diagnoses been made before operation or necropsy. As to treatment, in the milder forms of the condition rest and anodynes may meet all indications. In the severer forms the same rules apply as are employed in the treatment of ectopic pregnancy.

End-Results of the Conserved Ovary

DR. JOHN O. POLAK, Brooklyn: From a study of seventy-three reoperations on patients in whom one or both ovaries were conserved, we must draw the following conclusions: 1. Routine conservation without due consideration of the ovarian and contiguous pathologic condition as it exists in the individual case, is not good teaching. 2. Regeneration of the conserved ovary depends largely on the type and duration of the existing infection and the condition of the tunica of the individual ovary. 3. Even when the most detailed technic is observed, the ovarian circulation is impaired. 4. The retained ovary, without the uterus, is always a focus for possible trouble. 5. The life history of the retained ovary is of short duration, and the trophic influence of the diseased ovary has been overestimated. Finally, a cured patient has few nervous symptoms.

The Most Effective Methods of Preventing Venereal Diseases

DR. J. MONTGOMERY BALDY, Philadelphia: Legislation in the line of prohibition has proved a failure. Education has proved a failure. All methods, single and combined, used in the past have driven victims of the diseases to drug store clerks and quacks. The "holier than thou" attitude of the community has been most disastrous. The methods of control which give any promise whatever of success are the open treatment of the whole subject on the basis of sanitation, dealing with these venereal diseases as with any other class of diseases. The community must be taught that the old attitude in regard to these matters is erroneous. Hospitals must be forced to repeal any rules they may have prohibiting the admission of these patients to their wards. Superintendents assuming the attitude of fear of these diseases must be taught to change their attitude in these matters, or be driven out of the business. Hospital staffs must have full liberty of admission of such patients who in their judgment need hospital treatment. Hospitals running dispensaries must open special dispensaries for the treatment of these diseases. All advertisements in public places of a quack nature must be abolished, and in their place must be substituted notices of legitimate clinics at which such sufferers may apply. This class of patients must be taught that their confidence will be kept just as secretly as will their confidence in any other class of disease, and that they are perfectly safe in applying to hospitals for treatment. Hospitals must gradually provide free treatment for those suffering with these diseases who are unable to pay for them. The question of registration by physicians of patients at public boards of health, except in an extremely limited way, the name of the patient being not involved, is, to say the least, indiscreet if results are to be obtained.

Why the Midwife?

DR. J. CLIFTON EDGAR, New York: Hospital records bear out the fact that foreign-born women, after their first confinement under the care of the midwife, subsequently turn to the maternity hospital or a physician for obstetric aid. After a short residence in this country, the foreign-born woman does not usually persist in the employment of a midwife. Her ambition is eventually to be in a financial position enabling her to employ the services of a regular practitioner. During the existence of the Midwife Bellevue School, 235 midwives have been graduated; 5,125 confinements have been conducted by the pupils, 1,755 in the school, and 3,370 in the patients' homes, with a maternal mortality of 0.7 per cent. Only three patients died in the school itself, a mortality of 0.05 per cent. Six others died after being transferred to Bellevue for operation. The 5,125 patients cared for by the midwives of the Midwife School and in the patients' homes were practically all normal labor cases, as in fetal and maternal dystocia, and in bleeding cases, severe toxemia, and other abnormalities, the patients were sent to the Bellevue Obstetric Service for treatment. As far as the handling of strictly normal labor cases by the midwives go, the results have been excellent. The records indicate that little septic infection has resulted.

A plan for better and safer obstetrics in the outlying rural districts must recognize two main problems: 1. The best practical care of normal patients and, 2, the detection of abnormal patients and their care.

By education and supervision the midwife may be rendered reasonably safe for strictly normal labor, safe even for a minimum of sepsis, or for the prevention of ophthalmia neonatorum; but she is not safe, and no amount of education can fit the material which physicians have been brought in contact with, for the early care of prenatal complications, and maternal and fetal dystocia, which caused most of the infant and maternal mortality. Who should determine what is a strictly normal labor—the midwife? Never! She is incompetent to do so, and only the trained obstetrician can do so. The midwife can never stand on her own responsibility. For safe obstetrics the obstetrician must ever perform the prenatal examination and care. He must ever be at hand for the maternal and fetal dystocia of labor and the complications of the postnatal period.

Treatment of Puerperal Blood Stream Infection by Means of Arsphenamin (Arsenobenzol)

DRS. H. A. MILLER and S. A. CHALFANT, Pittsburgh: We have treated eleven cases of puerperal infection by means of arsphenamin (arsenobenzol) given intravenously, usually in 0.6 gm. doses, as frequently as three or four day intervals, giving from one to four doses. There were no toxic effects other than a mild albuminuria. Seven patients had a streptococcus in the blood stream, and two of them died; two had a gram-negative bacillus; both lived. Two had a negative blood culture, but were classed as cases of bacteremia clinically; both died. Two patients had intra-uterine irrigations with neutral solution of chlorinated soda at two hour

intervals. One recovered and one died. In the fatal case, necropsy revealed the uterus free from infection. Death was due to multiple abscesses of both kidneys. With the intravenous injections of arsphenamin we have been able to rid the blood stream of its invading organism in every instance. All varieties of organisms so far encountered seem to be equally influenced. After arsphenamin has been given there is a marked increase in the leukocyte count. If, after this time, there is a decided decrease in the leukocytes, it is possible that the patient has reinfected herself, and arsphenamin should be given without waiting for confirmation of the culture report. The blood stream is usually found to be sterile in twenty-four hours, always in forty-eight hours, except in one case in which only 0.4 gm. of arsphenamin were given. Rabbit experiments indicate that a dose of 6 mg. is necessary to secure prompt results. In suspected blood stream infections, arsphenamin may be given immediately after a culture has been taken in order to avoid the delay incident to waiting for a laboratory report.

Two Hundred and Ten Fibroid Tumors Treated by Radium

DR. HOWARD A. KELLY, Baltimore: Radium treatment, which is without danger and which is found effective in 93 per cent. of the cases, should be preferred to operation, which is, after all, a major operation of mutilating character offering considerable risk to life and health. The accomplishments of radium in this class of cases are: 1. Control of hemorrhage and checking of menstruation. 2. The shrinkage of the tumors. 3. In many instances the disappearance of the tumors. 4. In some cases, even after two years, the return of menstruation, either normal or scanty. There has been no mortality associated with the treatment of 210 consecutive cases. In 182 cases the results are known. In 171 radium alone was sufficient to relieve the patient. The tumor was either gone or markedly diminished, or the patient was symptomatically well. In five of the remaining eleven cases, some complicating condition was present (ovarian cyst, gallstones, calcified uterus); in two cases operation was preferred to further treatment; in three cases operation was found not to have been necessary, as the tumor had decreased under treatment; one case proved resistant to prolonged treatment. Nine of the eleven patients were operated on. If radium fails, the operation has simply been postponed without detriment to the patient. Menopausic symptoms are usually not severe. In 50 per cent. of the cases, no menopausic symptoms are complained of; in slightly more than 25 per cent. they are moderate and in slightly less than 25 per cent. they are marked.

Cancer of the Cervix Complicating Triplet Pregnancy

DR. BENJAMIN P. WATSON, Toronto: In a quintipara, aged 30, a large cauliflower carcinoma was found growing from the anterior lip of the vaginal portion of the cervix. The abdomen was opened, the uterus incised, and three 5-month fetuses removed, and then three separate placentas connected by membrane. A Wertheim operation was done. The patient made a good recovery.

The Graduate Degree in Obstetrics and Gynecology

DR. JENNINGS C. LITZENBERG, Minneapolis: The Minnesota plan for graduate work in the medical specialties is new, but new only in its application to medicine. The plan simply applies the principles governing university graduate work in any other branch of advanced learning to the medical branches, and places them not only under the same principles but actually in the graduate school of the university. The requirements for entry are a college degree, a medical degree, a thorough reading knowledge of French and German, and an internship of at least one year. The course extends over three years of work with a major and a minor, the same as for candidates for other advanced degrees, and examinations are held by a graduate faculty. A thesis, which must be an original contribution to science, is required and must be defended. This leads to the degree of Doctor of Philosophy in Obstetrics and Gynecology. A two years' course may lead to Master of Science. It is a plan to raise to a high level the training of specialists.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Twelfth Annual Meeting, held at Albany, May 21-23, 1918

The President, DR. ALEXANDER LAMBERT, in the Chair

Diagnosis of Nephritis

DR. ALBERT A. EPSTEIN, New York: A diagnosis of nephritis is confronted with two distinct problems: First, the determination of the pathologic processes involved, and, second, the evaluation of the kidney function. An accurate diagnosis of nephritis, therefore, entails a circumspect and complete analysis of all the morbid conditions present; the probable etiologic factors involved, the disturbance in function and other disorders which arise therefrom. To regard nephritis as an independent condition is a fallacy. The problem in the diagnosis of acute nephritis is essentially different from that of chronic nephritis. A consideration of the etiologic factors involved is very important; they are usually bacteria or their toxins, or, as I believe to be the case with certain subacute types, constitutional disorders of metabolic or endocrine origin. The existence of acute nephritis, excepting of course the chemical nephritides and the types occurring in pregnancy, point usually to an antecedent infection. But renal disorders with urinary signs frequently occur in febrile diseases of all kinds, which do not represent true nephritis, and thus the problem of differentiation often arises. In the latter group of cases the signs usually are not so pronounced. There is an albuminuria, at times, with casts. Functional disorders also arise. But there is not, as a rule, that marked evidence of renal involvement such as is found in the true cases of nephritis, nor does the disturbance last much beyond the duration of the febrile state. The difference is, perhaps, arbitrary and only one of degree. In the matter of chronic nephritis, the problem of etiology as a source of information is much more difficult. No doubt in a certain number of cases a history of acute nephritis or recurring infections may be elicited, and a diagnosis made; but the connection between the two is not always clear. Chronic poisoning, tuberculosis or syphilis may be contributory factors and require consideration in the diagnosis. There is one difficulty that presents itself from the clinical side in investigating the question of the connection between acute, subacute and chronic nephritis, and that is, that acute and subacute nephritis may appear without the development of symptoms other than the urinary signs during any infection. Furthermore, in the chronic nephropathies it is the possibility and the frequent occurrence of compensatory processes that create difficulty in arriving at a diagnosis. This is particularly true when the question is viewed from the functional standpoint. In the application of functional tests in the diagnosis of nephritis, two points should be borne in mind, namely, that a number of the different functional tests should be made and that they should be repeated in each and every case. As a prerequisite to the proper interpretation of the results obtained by functional tests, extrarenal factors that are capable of modifying or influencing them should be excluded.

Congenital Hydronephrosis

DR. JOHN T. GERAGHTY, Baltimore: There is a group of cases which has been puzzling practitioners for years. I refer principally to so-called primary hydronephrosis. The term "primary" has been used in these cases because there has been no etiologic factor that can be determined easily as the cause of this hydronephrosis. Many of the cases have been considered congenital, and until recently physicians have been of the opinion that most of the cases in which we can actually determine any cause for the extreme process are congenital. Recent studies, however, have shown that we are wrong. Two types of aberrant vessels are most apt to cause hydronephrosis. In one instance the vessels arise from the aorta behind the ureter and enter into the lower surface of the kidney at its lower pole. In the second case the vessel arises from the vena cava, crosses the anterior surface of the ureter, and enters the posterior surface of the

kidney. These two conditions give rise to a condition that produces obstruction. In a series of fifteen cases, I was able to find aberrant vessels as the cause of hydronephrosis in only two. The vessel crossed at the ureteropelvic junction. Marked kinking of the ureter or pressure of a vessel crossing over the ureter is not sufficient to produce hydronephrosis. However, in some cases of unusual mobility in which the kidney drops down over the aberrant vessel, that vessel may play an important rôle. Even though aberrant vessels are found, it is well to bear in mind that may not be the primary cause. There may be other factors that play a causal rôle. Renal mobility is put forward as a common cause, and most urologists give it first place. In my experience it has been the most common cause of hydronephrosis.

In a series of fifteen cases, nephrectomy was performed in ten. In three cases plastic procedures were carried out, and in two cases aberrant vessels were divided. In a study of these ten cases, with one exception there was found at the ureteropelvic juncture, or in the upper part of the ureter, an inflammatory infiltrate. Most of these cases were considered congenital beforehand, but sections through the ureter in studying the pelvis showed varying amounts of infiltration.

The diagnosis of hydronephrosis is not difficult. It is possible to make a diagnosis of hydronephrosis by pyelography and to demonstrate the exact point where the hydronephrosis begins. In most cases the kidney is destroyed when the patient is first seen. At any rate, it is either badly infected or the kidney is destroyed. Nephrectomy is the proper treatment.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Insanity, Baltimore

April, 1918, **74**, No. 4

1 Psychiatric Family Studies. A. Myerson, Boston.—p. 497.
2 *Examination of Regiment, U. S. Army, for Nervous and Mental Diseases. K. M. Bowman.—p. 555.
3 Impulsive Acts in Particular Form of Swallowing Foreign Objects, as Met with Among Insane. A. W. Hoisholt, San Francisco.—p. 569.
4 Drink and Its Control in Relation to Work and Health in Great Britain. R. A. Jones.—p. 579.
5 Study of Cases of Manic Depressive Psychosis Arising After Age of Forty. R. L. Whitney, Waverly, Mass.—p. 587.
6 Value of Outpatient Work Among Insane. A. W. Stearns, Boston.—p. 595.
7 *Results in Treatment of Paresis by Inunctions of Mercury and Drainage of Cerebrospinal Fluid. A. D. Finlayson, Warren, Pa.—p. 603.
8 Influence of Wars on Psychology of Times. C. K. Mills, Philadelphia.—p. 625.
9 Receiving Unit of State Hospital at Howard, Rhode Island. A. H. Harrington.—p. 635.
10 Sociologic, Neurologic, Serologic and Psychiatrical Study of Group of Prostitutes. J. Don Ball and H. G. Thomas, Oakland, Calif.—p. 647.
11 So-Called Lucid Interval in Manic Depressive Psychoses. Its Medicolegal Value. A. Gordon, Philadelphia.—p. 667.

2. **Examination of Regiment in Army for Nervous and Mental Diseases.**—In all, 1,189 cases were examined. There were 647 cases, or 54.5 per cent., negative in every way; 542 cases, or 45.6 per cent., showed positive findings; 117 cases gave positive family histories of nervous and mental disorder, and in 40 of these cases all other findings were negative. There were 57 cases which gave positive personal histories of nervous and mental disorder, and in none of these cases were all other findings negative; 475 cases positive findings from the neurologic and mental examination and in 367 of these cases all other findings were negative. The 117 cases of positive family histories afforded the following data: Nervousness, 54, in which 37 were of the mother, 5 of the father, 6 of one brother or sister, 6 of two or more brothers and sisters. Fainting attacks, 10, in which 2 were of the mother, 2 of the father, 3 of one brother or sister, 2 of two or more brothers and sisters, 1 of grandparent. Epilepsy, 19, in which 3 were of the mother, 2 of the father, 10 of one brother or sister, 2 of two or more brothers and sisters, 2 of uncle or aunt. Goiter, 23, in which 8 were of the mother, 2 of the father, 13 of one brother and sister. Insanity, 5, in which 4 were of the mother, 1 of one uncle or aunt. Chorea, 3, in which 2 were of one brother or sister and 1 of one uncle or aunt. Miscellaneous, 3. The 57 cases of positive personal histories yielded the following: nervousness, 39; fainting attacks, 4; epilepsy, 8; chorea, 4; miscellaneous, 2.

The 475 cases with positive neurologic and mental findings ran as follows: 69 cases showed sufficient evidence of mental deviation to warrant further examination; 59 of these were classed as possible mental defectives, 15 of whom were negative in every other way; 10 were classed as possibly unstable emotionally. Only a few of the most important neurologic findings need be given: 71 cases showed the presence of several stigmata of degeneration; 112 cases showed pupillary changes; 93 cases showed thyroid changes; 108 cases showed knee jerk changes; 126 cases showed the presence of tremors; 106 cases showed tremors of the fingers; 14 cases showed a slight stuttering or stammering; 35 cases showed combination of alteration of pupils and alterations of jerks and tremors. In the second examination, 144 cases were studied. The Wassermann test was done on 47 of these cases; the Binet test in 25; 27 were recommended for discharge. The diagnoses in these cases were as follows: defective mental development, 6; defective mental development and epilepsy, 3; defective mental development and constitutional inferiority, 3; defective mental development and constitutional inferiority with psychosis, 3; chorea, 3; exophthalmic goiter, 3, and exophthalmic goiter and defective mental development, 1.

7. **Treatment of Paresis by Mercury.**—Fourteen paretics, who had been showing symptoms from nine months to several years, received daily inunctions of mercurial ointment, 50 per cent. Every tenth day a lumbar puncture was made and from 20 c.c. to 40 c.c. of fluid withdrawn, the amount depending on the pressure and the rapidity of the flow. A Wassermann reaction was done, using the blood serum; a globulin test, cell count, Lange's colloidal gold test, Wassermann reaction and a chemical test to determine the presence of mercury were done, using the fluid. In seven, or 50 per cent., of the cases the blood Wassermann became negative and remained so for varying periods of time; one case had a negative blood at the time of admission and it remained so throughout the period of observation. In six, or 43 per cent., of the cases the spinal fluid became negative and remained so for varying periods of time. In no instance did the blood or spinal fluid become negative and remain so. All cases had negative globulin tests at one or more examinations; but, with the exception of one case, more positives than negatives were obtained. The cell count showed an irregular decrease in all instances. In four, or 28 per cent., of the cases the colloidal gold became negative, that is, was neither paretic nor syphilitic in type, but all showed "paretic curves" at some later examination. After fifteen months' treatment a trace of mercury was found in 500 c.c. of grouped spinal fluids. No mercury was found on previous examinations. One case showed a good remission mentally, but all the serologic findings remained strongly positive. Another case did not improve quite as much, but approached a state termed a remission, and has shown some negative serologic findings. The remaining twelve cases showed no greater mental or physical changes than would be found in a similar group of untreated cases. Finlayson emphasizes the fact that the lack of correlation between the serologic findings and mental conditions leaves little ground on which to base definite conclusions as to the value of the treatment.

American Journal of Physiology, Baltimore

May, 1918, **46**, No. 2

12 *Regulation of Renal Activity. Regulation of Urea Excretion by Epinephrin. T. Addis, G. D. Barnett and A. E. Shevky, San Francisco.—p. 39.

13 *Id. Regulation of Urea Excretion by Pituitary Extract. T. Addis, G. D. Barnett and A. E. Shevky, San Francisco.—p. 52.
14 Activation of Muscle Catalase by Liver. T. C. Burnett, San Francisco.—p. 63.
15 *Muscular Strength and Muscular Symmetry in Human Beings. E. G. Martin, Boston.—p. 67.
16 *Regulation of Renal Activity. Effect of Epinephrin and Pituitary Extract on Action of Kidney Under Strain. T. Addis, M. G. Foster and G. D. Barnett, San Francisco.—p. 84.
17 Relation of Suprarenals to Piqûre Hyperglycemia and to Glycogen Content of Liver. G. N. Stewart and J. M. Rogoff, Cleveland. —p. 90.
18 *Normal Mechanism for Control of Oxidation in Body. W. E. Burge and A. J. Neill, Urbana, Ill.—p. 117.

12. **Regulation of Urea Excretion by Epinephrin.**—The authors found that the subcutaneous injection of epinephrin is followed by an increase in the urea excreting activity of the rabbit's kidney. There is a certain amount of epinephrin which produces the greatest increase in function. Smaller amounts have less and less effect until there is no change from the normal. With larger amounts the augmenting effect on secretion also becomes less until, with relatively large doses the reverse effect of a decrease in function is found. Except with these large amounts the rate of urea excretion is more rapid than in animals not given epinephrin in spite of a lowering of the blood urea concentration.

13. **Regulation of Urea Excretion by Pituitary Extract.**—The subcutaneous injection of pituitary extract was followed in all effective amounts by a decrease in the urea excreting activity of the rabbit's kidney. The rate of urea excretion is slower than in animals not given pituitary extract, although the blood urea concentration is higher.

15. **Muscular Strength and Muscular Symmetry in Man.**—Strength tests by means of a spring balance method were made by Martin on 240 children between the ages of 5 and 18 years. The average percentage distribution of the strength among the muscles of the body was determined for each age. These percentage distributions are proposed as standards of muscular symmetry in children.

16. **Effect of Epinephrin and Pituitary Extract on Action of Kidney Under Strain.**—At high blood urea concentrations the degree of change in the urea excreting activity of the kidney produced by epinephrin and by pituitary extract is less than at low blood urea concentrations.

18. **Mechanism for Control of Oxidation in Body.**—Burge and Neill state that ingestion of the foodstuffs increases the catalase of the blood and hence of the tissues parallel with the increase in heat production. The increase in catalase is due mainly to the stimulating effect of the absorbed foodstuffs on the liver. The ingestion of protein, in keeping with its greater stimulating effect on heat production, produces a greater increase in catalase than fat or carbohydrate. After the removal of the liver from the body of an animal, the liver cells continue to liberate catalase for about two hours, due presumably to the stimulating effect of the dextrose formed from the glycogen.

American Journal of Public Health, Boston

May, 1918, **8**, No. 5

19 History of American Public Health Association. P. H. Bryce, Ottawa.—p. 327.
20 Public Health Publicity and Education Through Public Schools. I. S. Wile, New York.—p. 336.
21 Publicity in Health Matters a Public Right. O. Dowling. New Orleans.—p. 341.
22 Public Health Education and Family Magazine. C. E. Terry and F. Schneider, Jr., New York.—p. 345.
23 Service of State Public Health Laboratories in Time of War. H. Albert, Iowa City, Iowa.—p. 349.
24 Control of Typhoid in Chicago. H. Spalding and H. N. Bundesen, Chicago.—p. 358.
25 Practical Standards for Factory Illumination. L. B. Marks, New York.—p. 363.
26 Effect of War on Production of Garbage and Methods of Disposal. I. S. Osborn.—p. 368.
27 Practical Aspects of Dehydrated Foods. L. P. Brown, New York. —p. 372.
28 Physical Preparedness. G. B. Young, Norfolk, Va.—p. 375.

American Journal of Syphilis, St. Louis

April, 1918, **2**, No. 2

29 Syphilis of Stomach; Report of Forty Cases. G. B. Eusterman, Rochester, Minn.—p. 205.
30 Syphilis at Pyloric Sphincter of Stomach. P. Eisen, Chicago.—p. 220.
31 Some Differential Points Between Cancer and Syphilis of Stomach. G. M. Niles, Atlanta, Ga.—p. 222.
32 Syphilis of Lungs. M. F. Morris, Jr., Chelsea, Mass.—p. 231.
33 Leukoplakia of Tongue. D. W. Montgomery, San Francisco.—p. 237.
34 Syphilis of Inner Ear and Eighth Nerve. G. W. MacKenzie, Philadelphia.—p. 241.
35 History of Cerebrospinal Fluid. A. Levinson, Chicago.—p. 267.
36 Parasitology and Serology of Syphilis. A. Keidel, Baltimore. —p. 276.
37 Preparation of Colloidal Gold Solution. J. H. Black and L. Rosenberg, Dallas, Texas.—p. 288.
38 Bruck's Nitric Acid Test. H. J. Farbach, Louisville, Ky.—p. 292.
39 Roentgenology of Syphilis. R. D. Carman, Rochester, Minn. —p. 297.
40 Diagnosis and Treatment of Syphilis in Men. H. Goodman, New York.—p. 344.
41 Early Syphilis as Public Health Problem. W. J. Heimann, New York.—p. 365.

Georgia Medical Association Journal, Augusta

May, 1918, **8**, No. 1

42 Army in Relation to Tuberculosis Problem. G. E. Bushnell. —p. 1.
43 Some Principles Involving Treatment of Infected Wounds. J. C. Bloodgood.—p. 9.

Journal of Biological Chemistry, Baltimore

May, 1918, **34**, No. 2

44 Method for Detecting Small Quantities of Chloretone (Trichlorotertiarybutyl Alcohol) in Aqueous Solutions. T. B. Aldrich, Detroit.—p. 263.
45 Suprarenals in Relation to Carbohydrate Metabolism. Influence of Repetition of Epinephrin Injection on Intensity of Glycosuria and Hyperglycemia and Glycogen Content of Liver. S. Kuriyama, New Haven, Conn.—p. 269.
46 Id. Influence of Suprarenalectomy on Glycogenetic Power of Liver. S. Kuriyama, New Haven, Conn.—p. 287.
47 Id. Epinephrin Content of Suprarenals in Various Experimental Conditions. S. Kuriyama, New Haven, Conn.—p. 299.
48 Physiologic Behavior of Raffinose. S. Kuriyama, New Haven, Conn.—p. 321.
49 *Blood Dextrose as Affected by Morphin and Morphin with Ether Anesthesia. E. L. Ross, Chicago.—p. 335.
50 Determination of Various Forms of Nitrogen in Bovine Flesh, Including Products of Hydrolysis of Some of Proteins. Hexone Bases of Some Flesh Proteins. W. E. Thrun and P. F. Trowbridge, Columbia, Mo.—p. 343.
51 Id. Bromination of Hydrolysates of Some Beef Flesh Proteins. W. E. Thrun and P. F. Trowbridge, Columbia, Mo.—p. 355.
52 Basis of Measurement of Antagonism. W. J. V. Osterhout, Cambridge, Mass.—p. 363.
53 Determination of Hemoglobin During Infancy by Palmer and Van Slyke Methods. V. B. Appleton, New York.—p. 369.
54 Monthly Metabolism of Nitrogen, Phosphorus and Calcium in Healthy Women. H. C. Sherman, L. H. Gillett and H. M. Pope, New York.—p. 373.
55 Nutritive Value of Maize Protein and on Phosphorus and Calcium Requirements of Healthy Women. H. C. Sherman, L. Wheeler and A. B. Yates, New York.—p. 383.
56 Influence of Neutral Salts on Viscosity of Gelatin Solutions. J. Loeb, New York.—p. 395.
57 Effects of Electrolytes on Gelatin and Their Biologic Significance. W. O. Fenn, Boston.—p. 415.
58 *Stizolobin, Globulin of Chinese Velvet Bean, Stizolobium Niveum. C. O. Johns and A. J. Finks, Washington, D. C.—p. 429.
59 Globulin of Buckwheat, Fagopyrum Fagopyrum. C. O. Johns and L. H. Chernoff, Washington, D. C.—p. 439.
60 *Production of Glycosuria by Zinc Salts. W. Salant and L. E. Wangton, D. C.—p. 447.
61 Distribution and Elimination of Zinc and Tin in Body. W. Salant, J. B. Rieger and E. L. P. Treuthardt, Washington, D. C.—p. 463.

49. **Effect of Morphin and Ether on Blood Dextrose.**—A series of animals was subjected to the action of morphin injected subcutaneously and ether administered in an air mixture. These drugs were applied alone and together and in different orders. Blood dextrose determinations were made at various intervals. The data obtained lead Ross to the following conclusions: 1. Morphin administered hypodermically to dogs in doses of 10 mg. per kilogram of animal produced an average increase of 59 per cent. in the blood sugar in half an hour, 66 per cent. in 45 minutes, and 77 per cent. in an hour and a half. 2. Ether, given after morphin has been acting for half an hour, does not cause as much increase in blood sugar as if the morphin had not been used. However, the final degree of hyperglycemia is approximately the same, either with or without morphin.

58. **Stizolobin, Globulin of Chinese Velvet Bean.**—The globulin of the Chinese velvet bean has been isolated by Johns and Finks and analyzed. This protein has been named stizolobin. The basic amino acids in stizolobin have been determined by the method of Van Slyke. Analyses indicate that stizolobin contains all the basic amino acids known to exist in proteins. The lysin content is 8.27 per cent. of the protein. Tryptophane is also present. The free amino nitrogen in stizolobin has been found equal to very nearly one half of the lysin nitrogen as determined by the Van Slyke method.

60. **Glycosuria and Zinc Salts.**—The essential facts established by Salant and Wise are as follows: When zinc malate was injected intravenously into rabbits, glycosuria and hyperglycemia appeared, the presence of sugar in the urine as well as its increased amount in the blood being observed in well fed and in fasting animals; when sucrose was fed glycosuria was produced more easily. Glycosuria was also produced by subcutaneous injections and after the administration of zinc malate or acetate per os, but much larger doses were required. The amount of sugar in the urine was never large, being usually about 0.35 per cent., or less, in rabbits, but much larger averages were found in the urine of cats. Albuminuria, which in some cases became very pronounced, was likewise observed after administration of zinc salts, and it appeared either simultaneously with or before the glycosuria and lasted sometimes until the animal died. The duration of the glycosuria was about one to four days and also appeared irregularly in some experiments. Glycosuria, as well as albuminuria, was frequently absent in carrot-fed rabbits. When calcium chlorid was injected intravenously, immediately after or before zinc malate, glycosuria was slightly increased. The rate of secretion of urine was either diminished or remained unchanged after the administration of zinc salts. In a few cases only was the amount of urine augmented after the zinc. It appears, therefore, that some of the effects produced by zinc salts are analogous to those caused by the administration of other heavy metals.

Journal of Cancer Research, Baltimore

April, 1918, 3, No. 2

62 Cancerous Diseases in Norway. F. G. Gade.—p. 107.
63 *Some Phases of Radium Action with Special Reference to Hematopoietic System. J. A. P. Millet and T. Mueller, New York.—p. 127.
64 *Influence of Heat and Radium on Induced Immunity against Transplanted Animal Tumors. G. L. Rohdenburg and F. D. Bullock, New York.—p. 181.
65 *Fluctuations in Growth Energy of Malignant Tumors in Man, with Especial Reference to Spontaneous Recession. G. L. Rohdenburg, New York.—p. 193.

63. **Action of Radium on Hematopoietic System.**—The blood of ten cases of squamous cell carcinoma of the cervix uteri and vagina has been studied by Millet and Mueller in order to ascertain the immediate and remote effect of radium and roentgen-ray treatments on the formed elements of the blood. They found that the immediate effects of radium on the blood are not altered qualitatively by previous roentgen-ray or radium treatments, although the quantitative action may be somewhat diminished during a second treatment. The remote effects of radium on the blood are essentially similar to the effects of combined roentgen-ray and radium treatment. Individual slight differences in response to radium applications are often noted to occur again on a second application in the same individual. The immediate effects of radium on the blood are the following: (*a*) An immediate drop in total white count, reaching its maximum from one half to six hours after the application. (*b*) A return of the total white count to its former level within twenty-four hours after the application, usually within the first twelve hours. (*c*) An occasional secondary rise of the total white count to a point well above its original level from twelve hours to three days after the application. (*d*) A close adherence of the total polymorphonuclear count to the curve of the total white count. (*e*) An absence of characteristic changes in the total lymphocyte and total large mononuclear counts. (*f*) A tendency of the total lymphocyte count to follow in some degree the fluctuations of the total white count, especially when these are marked. This effect is not constant (*g*) A tendency of the relative lymphocyte count to drop, and of the polymorphonuclears to rise during the course of treatment. This tendency is reversed during the period immediately following the removal of the radium.

Remote effects of radium treatment on the blood are as follows: (*a*) Early. 1. Fall in lymphocyte count from two to four weeks after treatment, sometimes lasting till the end of the second month. 2. Fall in polymorphonuclears after treatment, sometimes simultaneous with the fall in lymphocytes but usually coming later and being less striking. 3. An attempt of the lymphocytes to recuperate, as shown by a rise in most cases at some later date, varying from three to nineteen weeks after treatment, to the approximate level seen before treatment. (*b*) Late. 1. Change in the relative counts as the patient's resistance weakens, with increase in polymorphonuclears and decrease of lymphocytes, but without leukocytosis. 2. Terminal leukocytosis, due in the main to increase of the absolute polymorphonuclear count, although usually accompanied by an absolute decrease in lymphocytes.

64. **Heat and Radium Action on Immunity Against Transplanted Animal Tumors.**—None of the results obtained by Rohdenburg and Bullock in their experimental work lead in any way to the conclusion that the improvement described in human cancer under radium treatment is due to the stimulation of autologous cells, or that benefit is to be expected by radiumization and previous or subsequent injection of homologous lymphoid tissue. Even though the tumors employed in the experiments had been cured, the results could not have been transferred to man, where the problem is to cure a spontaneous (as distinguished from a transplanted) neoplasm.

65. **Fluctuations in Growth Energy of Malignant Tumors.**—The literature of cancer is rich in reports of the recession of malignant tumors after one or another type of medical treatment, the particular therapeutic procedure which is supposed to have brought about the recession in each case being at once hailed as a "cure," only to give rise to failure and disappointment when tried out on a large group of cases. It is probable, therefore, that the isolated cases referred to are really spontaneous recessions and not therapeutic cures. With the idea of emphasizing the frequency of variations in the growth energy of human tumors, and at the same time of seeking further facts bearing on these variations in proliferative activity, the cases of marked recession or spontaneous cure recorded in the literature have been summarized by Rohdenburg, additional cases added, and the entire material subjected to analysis from the standpoint of his present knowledge of experimental cancer. It is concluded that recession of a malignant growth can occur in either sex, at any age period, with any type of malignant tumor, and irrespective of the location of the growth. It occurs after a variety of conditions, a proof that no particular one is specific, and it is very probable that all the conditions noted are preliminary, so to speak, and act by depressing the proliferative energy of the malignant cell until the defensive forces of the body (cytotoxins, cytolysins) are able to accomplish the final destruction. It appears that the most efficacious of all the many conditions which can bring about regressive change is heat, applied from without or occurring under the limited conditions of long duration and comparatively low degree. Including three personal observations recorded in this paper, Rohdenburg has been able to collect a total of 302 cases in which recession, either temporary or permanent, has occurred in a malignant growth. The chief lesson to be learned from the summary of cases here presented is that occasionally, perhaps with greater frequency than is ordinarily imagined, a malignant tumor will spontaneously recede. That such a regression does ever occur suggests that there may be found some method of bringing it about at will, even though this cannot be accomplished at the present time. Rohdenburg says that the occurrence of partial or complete spontaneous recession should make one very critical in judging new therapeutic procedures, that they may not be credited falsely with the results produced by forces of the nature of which we are for the present entirely ignorant.

Journal of Laboratory and Clinical Medicine, St. Louis

May, 1918, 3, No. 8

66 *Pathology of Skin Lesions Produced by Mustard Gas Dichlorethylsulphid). A. S. Warthin and C. V. Weller, Ann Arbor, Mich. —p. 447.
67 *Discussion of Lipoids Concerned in Growth; Action of Tethelin. E. L. Barney, San Francisco.—p. 480.
68 Gonococcidal Action of Protein Silver Solution in Vitro. H. Culver, Chicago.—p. 487.
69 Demand for and Training of Laboratory Technicians. J. A. Kolmer, Philadelphia.—p. 493.
70 Hoover's Diagnostic Signs Elicited from Movements of Ribs. R. G. Pearce, Cleveland.—p. 497.

66. **Skin Lesions Produced by Mustard Gas.**—This investigation concerns itself solely with the study of the gross and microscopic pathology of the cutaneous lesions produced in man and animals by the direct application of the liquid. The human material was obtained from auto-application, amputation material with consent of the patient, and accidental chemical laboratory lesions. Dichlorethylsulphid (mustard gas) is an escharotic, specific in its action on the epidermis and tissues of corium, particularly on the endothelium of the vessels. The lesion is a chemical burn unlike that produced by heat, electricity, or the ordinary corrosives such as sulphuric, nitric, and hydrochloric acids or strong alkalis. Of all these agents, the effects are most closely allied to those of hydrochloric acid, but are much greater in intensity. It differs from a heat burn in the absence of thrombosis, in the greater degree of fluid exudation, in the greater moistness of the affected area, and in the fact that the necrosis, as shown by the loss of nuclei, requires hours, or even days, for its complete development. The coagulated, shrunken and cooked appearance of the tissues in heat burns is not apparent in the tissues of mustard gas burns. The vessels in the affected area are severely damaged and collapsed and there is a local anemia in the earlier stages, with a marked fluid exudation and leukocyte migration. The process is nonhemorrhagic and nonthrombosing.

In man the necrosis of the epidermis is usually evident in two hours through the hydropic change in the epithelium and early vesicle formation. There is no deep edema. It is confined to the epidermis, and to the papillary layer in the early stages. In animals the intense and deep edema is most striking and altogether different from that seen in man. Vesicle formation was not noted by us in animals. The deep penetration of the smallest quantities applied to the surface is a most striking feature. There is an undoubted entrance through the hair follicles, sebaceous and sweat glands. The slowly progressive character of the necrosis is a specific characteristic, the height of the necrosis being reached five to ten days after application. This may, in part, be explained by contraction and death of the vessels with resulting anemia in the affected area. The painlessness of the lesion is also a marked characteristic. This may be explained by the edema and degeneration of the nerve endings in the affected portion. In none of the animals was there any conjunctivitis or irritation of the respiratory tract produced by the cutaneous applications.

The authors conclude that there is no evidence of metastasis from the local lesion, as claimed by both Meyer and Haldane. The authors believe that the conjunctival and respiratory lesions are due alone to the direct action of mustard gas, and when animals are protected from the vapor no lesions in these organs will result, no matter how severe the skin burn. Contrary to the statements of certain English and French observers, the admixture of water does not increase the escharotic action, but if the oil is immediately washed away, the lesion is greatly reduced in intensity. Washing within two minutes with tincture of green soap may entirely prevent the lesion or result in only a slight hyperemia. The authors believe that the lesions observed in the axilla, between the fingers and toes, around the genitals and between the thighs of men gassed in action are probably due to the greater moisture of these parts from perspiration and the resulting resolution of the gas. The slow healing is probably chiefly due to the vessel injury and the relatively slight leukocytic demarcating infiltration. In this respect the lesion is strikingly like a roentgen-ray burn of the skin.

67. **Lipoids Concerned in Growth; Action of Tethelin.**—Evidence is advanced by Barney of the efficiency of tethelin in the treatment of chronic ulcers.

Laryngoscope, St. Louis

May, 1918, 28, No. 5

71 Cartilaginous Tumors of Larynx. G. B. New, Rochester, Minn. —p. 367.
72 Decompression Operation on Hypophysis by Nasal Route. O. J. Stein, Chicago.—p. 376.
73 *Vaccine Treatment of Ozena. O. Glogau, New York.—p. 380.
74 Aphasia. M. K. Scripture, New York.—p. 408.
75 Defective Speech and Some of Its Phases. M. S. Ersner, Philadelphia.—p. 416.

73. **Vaccine Treatment of Ozena.**—In Glogau's opinion ozena as characterized by foul odor and yellowish crusts, is not a clinical entity and is therefore not caused by a specific organism such as the Perez bacillus. In those cases in which the cocco bacillus fetidus Perez is found, there has been transmitted directly or indirectly from the animal's nose (dog, rabbit, etc.) the bacillus bronchisepticus, the causative germ of distemper, on a previously predisposed soil of atrophied and, therefore, abnormally functionating nasal mucous membrane. The Perez bacillus has never been found in a normal nose and even not in one showing atrophy without crust formation and fetor. Crustation is due to the stagnation of secretion in an enlarged cavity. Only within these decomposing crusts, presenting an offensive odor, have those bacilli been found that have been claimed by different investigators as being the etiologic factors of ozena. Transient improvement in crust formation and fetor is found not only by the much heralded Perez vaccine, but also by any stock vaccine of staphylococci, streptococci, Abel bacillus, Friedländer bacillus, etc., if these germs happen to be present in the crusts. Strong antiseptic and germicidal local applications after thorough and regular cleansing will have a similar transient positive effect on both crusts and fetor. The crux in the treatment of what is called ozena lies in the fact that the atrophy of the nasal mucous membrane and its underlying structures is the primary condition and that this atrophy will therefore never be cured by any vaccine treatment whatsoever.

Medical Record, New York

June 1, 1918, 93, No. 22

76 Primary Cause of Shock. F. B. Turck, New York.—p. 927.
77 Broken Noses, Their Pathology and Treatment. W. W. Carter, New York.—p. 940.
78 Carrel-Dakin Treatment; Its Application in Surgery in Civil Practice. M. W. Ware, New York.—p. 942.
79 Some Recent Studies in Percussion and Auscultation in Pulmonary Tuberculosis. M. Grossman, Brooklyn.—p. 944.
80 True Pruritus Ani; Its Association with Pyorrhea Alveolaris. E. J. Clemons, Los Angeles.—p. 945.

New Orleans Medical and Surgical Journal

June, 1918, 70, No. 12

81 Removal of Tonsils and Adenoids Under Local Anesthesia. S. M. Blackshear, New Orleans.—p. 891.
82 Cerebrospinal Meningitis, Especially Eight Cases in One Family. R. B. Wallace, Alexandria.—p. 893.

New York Medical Journal

June 1, 1918, 107, No. 22

83 Use a Specific for Every Pathogenic Micro-Organism. E. H. Ochsner, Chicago.—p. 1009.
84 Treatment of Hay Fever and Asthma by Pollen Extracts and Bacterial Vaccines. W. Scheppegrell, New Orleans.—p. 1016.
85 Infection of Children with Tubercle Bacillus. E. M. Sill, New York.—p. 1018.
86 Diagnostic Kinks in Infectious Diseases. S. D. Hubbard, New York.—p. 1021.
87 Gallstones. S. Weiss, New York.—p. 1022.
88 Polyglandular Disease; Report of Case. M. H. Frantz, New York. —p. 1028.
89 Cardiovascular Problem of Draft. H. Brooks, New York.—p. 1034.

South Carolina Medical Association Journal, Greenville

May, 1918, 14, No. 5

90 Work of Medical Advisory Board in Draft. K. M. Lynch, Charleston.—p. 119.
91 Epidemiology of Cerebraspinal Meningitis. J. A. Hayne, Columbia.—p. 123.
92 Consideration of Proper Management of Obstetric Engagements in Sparsely Settled Districts. D. H. Smith, Glenn Springs. —p. 127.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

May, 1918, 26, No. 5

93 Cerebellar Localization. G. W. Robinson, Kansas City, Mo. —p. 97.
94 Treatment of Cerebrospinal Syphilis. R. Bolend, Oklahoma City. —p. 103.
95 Treatment of Spinal Tuberculosis. E. D. Ebright, Wichita, Kans. —p. 105.
96 Pneumonia. F. H. Clark, El Reno.—p. 107.

Washington Medical Annals, Washington, D. C.

May, 1918, 17, No. 3

97 Treatment of Eye with Ductless Gland Products. S. B. Muncaster, Washington, D. C.—p. 187.
98 *Case of Cyst of Femur. J. A. Gannon, Washington, D. C.—p. 193.
99 Case of Aneurysm of Ascending Aorta, Involving Innominate and Proximal Portions of Right Subclavian and Common Carotid. C. B. Conklin, Washington, D. C.—p. 196.
100 Early Diagnosis and Treatment of Syphilis of Central Nervous System. J. E. Lind.—p. 198.
101 Charles Lamb and His Melancholia. D. S. Lamb, Washington, D. C.—p. 202.
102 Food Conservation. L. E. Kress, Washington, D. C.—p. 212.

98. **Cyst of Femur.**—Gannon's patient, a man, aged 65, was admitted to the hospital with extensive gangrene of right foot; arteriosclerosis and endarteritis as predisposing causes, and exposure to cold as the exciting cause. Examination showed besides the gangrene, an enlargement of the femur where, as he stated, there had been a fracture seven years ago. Gannon amputated the gangrenous limb by sawing through the enlargement of the thigh, and divided exactly in half, what proved to be the cyst. It contained about a half ounce of straw-colored fluid and a thick connective tissue membrane which was readily peeled from the surrounding bone. The membrane was removed from the proximal portion of the bone and the stump was sutured in the usual manner.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

May 11, 1918, 1, No. 2993

1 *Prophylactic Use of Quinin in Malaria. C. H. Treadgold.—p. 525.
2 Interlobar Empyema and Other Surgical Complications of Thorax. W. Broadbent.—p. 529.
3 Choledocho-Enterostomy for Constriction of Common Bile Duct Following Perforated Duodenal Ulcer. W. A. Sneath.—p. 531.
4 Case of Hematidrosis. C. T. Scott.—p. 532.
5 Intermittent Hematemesis Following on an Injury to Chest. A. H. D. Smith.—p. 533.
6 Phagocytic Response to Introduction of Bacteria into Clean Wounds. W. J. Wilson.—p. 533.
7 Perforating Wound of Heart; Death on Fifth Day. C. F. Wightman.—p. 534.

1. **Prophylactic Use of Quinin in Malaria.**—Between the beginning of February and the end of April, 1917, Treadgold examined the various units of a certain division in Macedonia with a view to determining the proportion of men on duty who were infected with malaria. Smears from 540 men were stained and searched for parasites. Plasmodia were found in over 30 per cent. of the men who had been in Macedonia during the previous summer, while the altered differential leukocyte count suggested that over 60 per cent. of such men were in reality infected. Parasites were found in nearly 8 per cent. of men with no history of fever; if the increased hyaline count is regarded as evidence of infection, their number increases to over 37 per cent. Gametes were found in over 90 per cent. of the positive slides, and schizonts were also present in a large proportion. *P. vivax* was the common parasite found: *P. falciparum* was noticed on seven occasions, *P. vivax* being also present in four out of the seven; *P. malariae* was only diagnosed once. As to the prophylactic use of quinin in malaria, Treadgold says, that speaking generally, it may be stated that quinin prophylaxis is usually a bad investment for immigrants in the absence of protection against mosquito bites; taking one thing with another, the practice would in their case seem to be little more than a pious fraud, which has been perpetuated from one generation to the next simply because public opinion throughout the world has never been sufficiently enlightened to encourage the working out of the problem on scientific lines. Clinical and theoretical considerations compel us to admit that the general course of the disease may be noticeably affected by the previous taking of quinin, and that the sum of such influences is frequently unfavorable. So far as the allied armies in Macedonia are concerned, there is every reason to suppose that quinin taken daily over periods of many months has increased the severity and chronicity of the disease in a certain proportion of cases. Taking one thing with another, the available evidence indicates that in Macedonia, at any rate, the disadvantages of quinin prophylaxis outweigh the advantages.

Dublin Journal of Medical Science

May, 1918, 145, No. 557.

8 Treatment of Syphilis. T. P. C. Kirkpatrick.—p. 273.
9 Id. H. C. Donald.—p. 280.
10 Id. G. E. P. Meldon.—p. 286.
11 *Malaria: Its Treatment and Complications. W. F. Wicht.—p. 288.
12 New Femoral Index. J. R. D. Holtby.—p. 294.

11. **Treatment of Malaria.**—Wicht's line of treatment of malaria is as follows: As soon as there is evidence of an attack of fever he starts the patient off on 10 grains acetyl salicylic acid along with a diaphoretic mixture. He places him between blankets, and at the same time starts the administration of quinin. For the first ten days quinin is administered at the rate of 40 grains per day. It is then reduced to 30 grains and liquor arsenicalis is given at the rate of 5 minims daily. This treatment is continued in the foregoing manner for another ten days, then the quinin is reduced to 20 grains, and the liquor arsenicalis to 7½ minims per diem. Then the quinin is further reduced to 10 grains after another ten days of this treatment, but the dosage of the liquor arsenicalis remains the same. Finally the quinin is discontinued altogether after the expiration of another ten days. Wicht's treatment for chronic malaria is as follows: Starting off with antipyretics and quinin, in a manner similar to the treatment of acute cases, he continues by putting the patient through a course of arsenical preparation for four consecutive days. If the patient still shows malarial parasites in his peripheral blood he puts him back and gives him a further course of arsenic for six consecutive days. He continues driving the quinin in doses similar to those quoted for the ordinary acute infection.

Edinburgh Medical Journal

May, 1918, 20, No. 5

13 Present Day Outlook on Tuberculosis. R. W. Philip.—p. 289.
14 Training of Student of Medicine.—Pathology and Medical Student. H. R. Dean.—p. 307.
15 Teaching of Pathologic Anatomy, with Special Reference to Clinical Medicine. I. Mackenzie.—p. 318.
16 *Pathology in General Practice. J. S. Edwards.—p. 329.
17 Teaching of Pathology. L. Smith.—p. 334.

16. **Pathology in General Practice.**—Edwards urges that: 1. Every graduate should have a thorough training in pathology, both theoretical and practical. This should be sufficient to allow him, should he find the opportunity, to carry out for himself not only routine laboratory work but also research. 2. Every general practitioner should have the right to laboratory report on any pathologic material, and this at no expense to himself or his patient. This should certainly include the right to the services of a competent pathologist to perform a postmortem examination in any case of interest. 3. Every provincial hospital should be provided with a fully equipped laboratory and a whole time pathologist. The only method of bringing pathology into active touch with the general practitioner is through the medium of the local hospital. All such local laboratories must be in intimate touch with the pathology department of some university, so that the more difficult examinations may be submitted for expert opinion.

Journal of Tropical Medicine and Hygiene, London

May 1, 1918, 21, No. 9

18 Case of Trypanosomiasis with Other Protozoal Infections Contracted in Cameroons; Relationship of Filaria Diurna with Calabar Swellings. P. W. B. Smith.—p. 93.

Practitioner, London

May, 1918, **100**, No. 5

19 Influence of Dose and Its Bearing on Question of Communicability of Tuberculosis. L. Cobbett.—p. 402.
20 Chemotherapeutic Treatment of Gonorrhea. J. E. R. McDonagh. —p. 416.
21 Some Suggestions for Extension of Vaccine Therapy. H. G. Leyton.—p. 429.
22 Treatment and Degree of Curability of Neurasthenia Pura. S. H. Bennett.—p. 431.
23 Ionic Medication in Middle Ear Catarrh. A. A. Pim.—p. 440.
24 Nonsurgical Treatment of Exophthalmic Goiter—Counterblast. T. B. Scott.—p. 442.
25 Petrol Dermatitis. G. B. Page.—p. 451.
26 Case of Acute Tuberculous Peritonitis in Course of Paratyphoid Simulating Perforation. K. Yacoub.—p. 452.

Archives des Maladies du Cœur, etc., Paris

April, 1918, **11**, No. 4

27 *Dextrocardia. A. Clerc and J. Bobrie.—p. 145.

27. **Dextrocardia.**—Clerc and Bobrie report a case in a robust soldier without associated lesions discoverable with the roentgen rays. His general depression and palpitations with slight tachycardia had developed only recently after a shell concussion, and his symptoms from the shell shock did not seem to differ from those in men with normal hearts. In 42 of the 56 known cases of dextrocardia the subjects were males. The anomaly was discovered in infancy in 6; and in the others at various ages up to 67. More than half were under 20. In 23 of 55 cases the anomaly was congenital beyond question and there were other malformations. In the 32 cases of pure, isolated dextrocardia there were no appreciable lesions or disturbances in the circulatory apparatus.

Archives de Médecine des Enfants, Paris

May, 1918, **21**, No. 5

28 *Echinococcus Disease in Children. F. Dévé.—p. 225.
29 *Meningococcus Septicemia. A. Netter.—p. 246.
30 *Bilateral Crossed Herpes Zoster. J. Comby.—p. 253.
31 *Child Welfare Work in America. J. Comby.—p. 258.

28. **Echinococcus Disease in Children.**—Dévé insists that echinococcus disease in children is merely a simple cyst without complications. In examining a child, the possibility of echinococcus disease should be borne in mind and strict search made for it, as excision of the cyst eradicates the disease. This is Dévé's fifteenth published study on echinococcus disease. He has long emphasized the futility of the recommendations for prophylaxis by hygiene. Can we ever get children to refrain from playing with dogs, eating raw fruit or drinking water that is not boiled or filtered? It is impossible to protect human beings and animals against the invisible germs of the disease scattered by the dog infested with the echinococcus. But we can prevent the dog from acquiring these germs. This is the true solution of the problem of prophylaxis: protection of the dog. The dog becomes infested only by eating the viscera of animals slaughtered for meat, beef, pig and sheep, affected with what the butchers call "bubbles," *boules d'eau*. Especially in rural districts, the destruction by fire of all the viscera from an animal infested with the echinococcus, and the absolute exclusion of every dog from the places where animals are slaughtered, will eradicate the disease. Treatment of the single cyst in a child is a simple operation when preceded by injection of formaldehyd to kill the parasites and ward off postoperative recurrence. The prognosis is favorable unless the cyst is in the brain, lung or abdomen. In the lung the outcome is fatal more often than in adults, and multiple cysts in the abdomen usually require several interventions. In diagnosis, the persisting good general condition accompanying a tumor in the liver is characteristic. The specific antibodies in the blood may confirm the diagnosis, but in about 10 per cent. the findings are misleading. Eosinophilia is seldom characteristic in children, especially in those with helminths.

29. **Intermittent Fever with Meningococcus Septicemia.**—Netter reports a typical case in illustration of the fact that meningococcus infection may assume the type of a regular daily or tertian intermittent fever. It is often accompanied by eruptions, a nodular or polymorphous erythema or purpura, and one or two months or more may elapse before the cerebrospinal meningitis caps the clinical picture. In some cases the meningitis never develops at all. Bacteriologic examination of the blood clears up the diagnosis when the spinal fluid gives negative findings. The intermittent febrile attacks yield promptly to proper serotherapy, preferably polyvalent treatment. Intravenous injection may induce alarming reactions even at the first injection, so that the intraspinal route is preferable.

The case described in detail was in a boy of 15, and the febrile paroxysms occurred irregularly, morning or afternoon, every day or third day. In the intervals he did not seem sick. This was the rule also in the similar cases in infants and others on record. The chill, fever and enlargement of the spleen were sometimes accompanied by joint symptoms, but the eruptive manifestations pointed to meningococcus infection rather than to malaria in one of his five cases. In a case reported by Cantieri the diagnosis had been successively malaria, Addison's disease, tuberculosis, Malta fever, septicemia and febrile syphilis. No signs of meningitis were apparent until the eighty-first day. No meningococci were found in the spinal fluid until a day or two later. Serotherapy then promptly restored the patient to health, after months of futile other measures.

30. **Crossed Bilateral Herpes Zoster.**—Comby's two patients were a boy and girl over 7. The boy developed herpes zoster simultaneously in the left upper chest and back of the right thigh. The girl had symmetrical herpes on both buttocks. In forty-two cases of herpes zoster in children recorded in the last few years, there was no neuritic pain, no neuralgia followed, and recovery was soon complete. The cases in children confirm the assumption that the zona is the result of some local or general infection affecting some nerve or ganglion with transient or chronic congestion.

31. **Welfare Work for Children.**—Comby speaks appreciatively of what is being accomplished in the United States in the line of puericulture, and especially the work of the Children's Bureau of the American Red Cross. He says, "The Americans of the North, the United States of America, in taking their place beside us to fell the German monster, want to aid us not only in the present but even in the future. After having done the possible to ensure the victory of Right over Might, of Civilization over Barbarism, they have thought of tomorrow, and affirmed their intention of aiding in the rescue of future generations." He describes what has already been accomplished and is planned, and remarks in conclusion, "This splendid attitude of our friends from America merits more than gratitude on our part. It should rouse us to put forth all the energy of which our race has shown itself capable in the course of its history."

Bulletin de l'Académie de Médecine, Paris

April 23, 1918, **79**, No. 16

32 Pigments of the Blood Serum. G. Patein.—p. 318.
33 Histology of Rapidly Growing Fibroma. A. Siredey.—p. 320.

April 30, 1918, **79**, No. 17

34 *Skull Plastics. J. A. Sicard, G. Dambrin and H. Roger.—p. 331.

34. **Bone Plastic Operation on the Skull.**—Sicard and his co-workers have been using for two years a method of closing the breach in the skull with a plate of bone taken from the skull of a cadaver. They have had no mortality in their eighty-five cases while the outcome has been a reliable and durable success. Metal plates are liable to become a source of irritation, and cartilage and other bone grafts are liable to grow weak in time and even be absorbed, with return of pulsation in the area.

Bulletin de la Société Médicale des Hôpitaux, Paris

March 8, 1918, **42**, No. 9

35 *Cancer of Esophagus. A. Siredey and Alevisatos.—p. 233.
36 *Nonrenal Edema. M. Labbé and Marcorelles.—p. 236.
37 *Ligation for Causalgia. Lortat-Jacob and G. L. Hallez.—p. 239.
38 *Concussion of Spinal Cord. G. Guillain and J. A. Barré.—p. 244.
39 Histologic Bacillosis of the Kidney. E. Leuoble.—p. 247.
40 Resisting Power of the Blood Vessels in Malaria Under Quinin. J. Baur, Bocca and Tulasne.—p. 250.
41 The Transfuso-Aspirator. J. E. Larché.—p. 252.
42 Cancer of the Prepuce. M. Pinard and Milon.—p. 254.
43 *Acroparesthesia from Chilling. J. Cottet.—p. 257; p. 260.

35. **Cancer of Esophagus.**—The ignored cancer in the man of 47 had never caused appreciable symptoms until it perforated into the trachea.

36. **Edema Without Nephritis.**—Labbé and Marcorelles report two cases of retention of salt, with anasarca, although the kidneys seemed to be normal. The diffuse and extreme edema in each case had developed during an attack of dysentery with anemia, and the edema subsided completely on a salt-free diet plus theobromin. The kidneys, heart and liver seemed to be entirely or approximately normal. The great loss of fluids from the dysentery seems to favor retention of chlorids and edema. The latter resembles in every respect the familiar edema with Bright's disease. The mechanism of its production is a mystery.

37. **Ligation of Nerve Cures Causalgia.**—Jacob and Hallez found all measures futile to relieve the intense pain in the domain of the right median nerve following a war wound entailing paralysis of the median and ulnar nerves. The causalgia persisted and there was not a trace of anything suggesting recovery of motor functioning by the end of the ninth month. Then Jan. 9, 1918, the median nerve was exposed for about 5 cm. well above the wound, and a ligature of No. 1 catgut was thrown around it. The nerve seemed large and much vascularized, with a slight edematous aspect. Within a few hours the pains were much reduced, and by the next day the causalgia had entirely subsided and there has been no recurrence during the months since although the motor paralysis and the reflexes were not modified. The hyperesthesia in the domain of the median nerve has changed to almost complete anesthesia, and the vasomotor and secretory disturbances in the region have almost entirely disappeared. The moderately tight catgut ligature inhibits or suppresses the irritability of the sympathetic fibers surrounding the nerve and the congestion in the trunk nerve, while the ligation does not injure the nerve fibers proper which are undergoing centrifugal regeneration. As the catgut is absorbed in a few days, the whole intervention is simpler and less of an operation than the other measures that have been applied in treatment of causalgia, including peripheral sympathectomy, injection of alcohol, or division of the nerve to which some have had recourse as the last resort.

38. **Paraplegia from Concussion of Spinal Cord.**—Summarized in Paris Letter, June 1, p. 1620.

43. **Acroparesthesia from Chilling.**—The sensory, vasomotor and trophic disturbances in the extremities under the influence of cold are important on account of the predisposition they entail to Raynaud's disease, to freezing of the feet, and to the so-called physiopathic contractures and paralyses after war wounds. There is evidently some constitutional or acquired vasoconstriction in hands or feet or in both, accompanied by analgesia of the four members and also sometimes of the nose and the ears. This analgesia embraces the limb except for the palm of the hand and the front part of the dorsum of the feet. When acquired, this syndrome can always be traced to some prolonged exposure to cold. Men known to have this acroparesthesia should be guarded against exposure to freezing, etc.

Paris Médical

April 13, 1918, **8**, No. 15

44 *Stiff Joints. M. Nageotte-Wilbouchewitch.—p. 289.
45 Acute Swelling of Half of Tongue. G. Schreiber.—p. 299.
46 Measurement of Pleural Effusion. A. Challamel.—p. 301.

44. **Stiff Joints from Shortness of Muscles.**—Thirteen years ago Nageotte-Wilbouchewitch called attention to the inability of certain children to flex their joints normally. She explained it as the result of abnormal shortness of the muscles involved, and time has unmistakably confirmed this assumption. A number of typical cases are illustrated here. There is nothing to suggest inflammation or contraction in the muscles; they are merely too short in proportion to the bone levers which they control. She has coined the term brachymyonia to express this condition. It may become apparent at the age of 6 or 7, but it is usually during the period of intense growth, from 11 to 15, that the play of the joints is most restricted. The children are awkward and the mothers complain that they seem to be petrifying. Boys are affected more often than girls, and there is usually a family history of nervousness, sluggish metabolism or chronic rheumatism. Some of the children had been prematurely born or were twins. A familial and hereditary occurrence is not rare but the children of the poor and the children of the well-to-do escape. She found it restricted to the middle class; perhaps it represents a kind of atavism, generations of sedentary occupations breeding this lack of proportion between the growth of the skeleton and the growth of the muscles.

The insufficiency of the movements and the chronic asphyxia when the "stiffness" affects the chest, keep the child in a vicious circle. Passive and active exercises and massage may improve the condition, but they have to be kept up during the entire period of growth and for some time afterward. Her experience indicates that when the bones have got their growth, the muscles keep on growing for a time, so that finally normal proportions are restored. This brachymyonia involving the chest, preventing the normal play of the lungs, seems to be the hardest to correct, while it is exceptionally hard to outgrow, and is fraught with exceptional peril for the child's health in general. All kinds of measures to restore the normal excusions of the thorax are indicated, with training in diaphragm breathing. Corsets and tight belts are exceptionally harmful for girls in this category. Improvement in mind and body parallels the improvement in the movements as the children lose their awkward stiffness and grow supple again.

Presse Médicale, Paris

April 18, 1918, **26**, No. 22

47 *Gas Gangrene. E. Sacquépée.—p. 197.
48 Fitness for Service after Wounds of Peripheral Nerves. P. Descouts.—p. 198.
49 Nervous and Mental Disease and War Pensions. R. Benon.—p. 199.

April 22, 1918, **26**, No. 23

50 *Acute Meningitis in Inherited Syphilis. V. Hutinel.—p. 205.
51 Fluctuations in Spleen Early in Malaria. R. Porak.—p. 208.
52 Comparison of Bacteriologic and Chemical Analyses of Water. M. Brulé and R. Hazard.—p. 211.

47. **Gas Gangrene.**—Sacquépée reports that two anaerobes, the septic vibrio and the *Bacillus bellonensis* were found so constantly in 121 complete analyses in 100 cases of gas gangrene, that he is convinced that these are the specific agents of primary gas gangrene. The former seems to be responsible for the gas gangrene, the bellonensis for the gas gangrene and the edematous forms. They reproduce constantly the disease in animals, and exert the same toxic action.

50. **Acute Meningitis in Inherited Syphilis.**—Hutinel describes some cases in children between 3 and 15 in which the meningitis developed on a basis of inherited syphilis. It is like the meningitis in adults from acquired syphilis. In the first few weeks of life the specific meningitis is part of the grave general septicemic disease, but after the age of 2, there is not so much acute meningitis as the rearousing of old reactions on the part of the meninges to some casual infection acting on the already damaged nerve cells. The reaction may simulate tuberculous meningitis or it may be insidious and latent. Inherited syphilis should be suspected when the meningitis does not present the classical picture of ordinary meningitis and suspicious stigmata suggest possible syphilis, but the convincing proof is the recovery under specific treatment. Even when everything seems to suggest true tuberculous meningitis, he waits before informing the family until after a course of specific treatment. This does no harm in the tuberculous form while there is always a possibility that syphilis may be responsible for the meningitis, and that it may subside under treatment. The signs and symptoms of the *poussées méningitiques* in inherited syphilis are those of any acute meningitis; convulsions are frequent. The spinal fluid may show the findings common in tuberculous meningitis, or the lymphocytes may be replaced by medium or large mononuclears or polynuclears, and the cell count may vary rapidly. Spirochetes are not generally found in the fluid, and the Wassermann reaction is often negative. In about half his cases, a positive response to the Wassermann test in blood and spinal fluid was not obtained until after recovery.

The specific treatment evidently reactivated the substances yielding the Wassermann reaction.

Chirurgia degli Organi di Movimento, Bologna

February, 1918, **2**, No. 1

53 *Kinematic Plastics. G. Vanghetti.—p. 1.
54 *Operative Treatment of Varicose Veins. A. Guaccero.—p. 21.
55 *War Fractures of Long Bones. M. Francini.—p. 41.
56 Fractured Humerus. F. Rossi.—p. 83.
57 *Transitional Artificial Legs. V. Putti.—p. 91.

53. **Vitalization of Artificial Limbs.**—Vanghetti describes the history of his twenty years of efforts to have surgeons adopt the principle of direct muscular control of the movements of the artificial limb by the muscles in the stump. He is not a specialist surgeon himself, but he advocated the principle and had published seven articles on the subject between 1898 and 1908 and several since. He has devised fifty-one different ways in which the principle can be applied in various ways, including the utilizing of antagonist muscle action. He gives no mechanical details, leaving the working out of the principle to surgical specialists, as Sauerbruch in Germany (1916-1917) has already done although forgetting to mention the Italian source of the principle.

54. **Varices.**—Guaccero reviews the history of operative treatment of varicose veins in the leg, describing eight different technical procedures for the purpose, and sixteen operative cases from his own experience. He advocates operative treatment in all cases with extensive and progressive invasion, especially in the young. The most imperative indications are in the cases with a reflux from the heart on account of the insufficiency of the valves. The insufficiency of the valves of the internal saphenous vein, with ectasia, tortuous course and ampular dilatations, is shown up prominently by having the reclining patient stand up. The saphenous vein is then seen to fill up from above as well as from below, a centrifugal wave meeting the centripetal wave. The primary iliac and the external iliac have no valves, and when the saphenous vein is so enlarged that its valves become insufficient, then the result is a single long open tube into which the blood backs from above. The advancing wave from above can be checked by pressing the finger on the vein, but when the pressure is released, the vein at once grows turgid. In such cases the vein is liable to rupture, with profuse hemorrhage, and operative measures are urgently indicated. Removal of the entire vein is the most logical and certain treatment, removing the whole trouble at once. If this is not practicable, he advises excision of the most pronounced varices, and suture of the skin over other parts of the vein after cutting out a spindle-shape flap. Bringing the lips of the wound together exerts a pressure like that from an elastic stocking.

When the sign of the cardiac reflux is not apparent, then the cause of the varices is what he calls deep regurgitation. Muscles contracting over the deep system of veins compress the veins and force the blood in them out into the superficial veins. When this is the case, the varices develop at points where the intercommunicating veins are most numerous, namely, in the middle of the leg, in the middle third of the thigh, and in the triangle of Scarpa. Extensive removal of the vein is the best procedure here also, preferably of the entire vein. In the sixteen cases reported, total saphenectomy was done on the left leg in eight, the right in two and on both legs in three. In two, both the internal and external saphenous vein were removed. The results were invariably most gratifying, at the time and during the years since. In what is called varicose cyanosis, involving the capillaries, injections of some coagulating substance may be useful to supplement the removal of the vein.

55. **War Fractures of Long Bones.**—Francini discusses his two years of experience in a field hospital. In one case tetanus followed gas gangrene. On account of the gas gangrene, the thigh had been amputated. Antitetanus serum was given at the time and again a week later and the stump seemed to be healing perfectly when rapidly fatal tetanus appeared the fourteenth day, as also in another case, the twenty-first day. Amputation is imperative when gangrene from anemic necrosis becomes superposed on the bacterial, and at the earliest possible moment. Francini's extensive experience teaches that the whole of the muscle is infected throughout when one segment is unmistakably affected with gas gangrene. The stump, therefore, should be short unless the amputation can be done in the thigh, for instance, when the infection is in the leg. As the seat of the infectious process seems to be exclusively in the muscles, there is no advantage in a disarticulation rather than amputation. A high amputation with a lateral incision, as in the second step of a disarticulation, favors elimination of secretions and of necrotic tissue. He emphasizes that the gas impregnation of the tissues may extend higher than the actual infectious process. Hence we are not completely disarmed even if the characteristic sound (*scricchiolio*) reaches above the root of the limb. Of course the outlook is less favorable, but he has had successes even under these conditions, and so have others. Reamputation later is liable to rouse the sleeping or healing process anew, with disastrous consequences.

The circular method of amputation is his choice, and he swabs the stump freely with iodin. The soft parts can be stretched to cover the stump by means of two loops of adhesive plaster on each side fastened to a circular strip around the skin of the stump. A similar cage made of wire projects below the end of the stump. A piece of rubber tubing fastens the apex of the wire cage to the similar cage formed by the adhesive plaster strips. Gentle traction is thus exerted on the soft parts of the stump, and in a few days they are long enough to cover the stump completely. In his first series of twenty-nine amputations for gas gangrene only 24 per cent. of the men died, but in twenty-five recent cases so many hours had elapsed before it was possible to pick up the men, that all died but seven.

57. **The First and the Transitional Prostheses.**—Putti discusses the principles involved in preparing the stump for the definite prosthesis by the wearing of the pilon, and the importance of the proper fitting of the latter and of the transitional prosthesis.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 4, 1918, **39**, No. 27

58 *Chronic Typhoid. F. Bergolli.—p. 267.

April 7, 1918, **39**, No. 28

59 *The Staphylococcus Albus. G. A. Pari.—p. 273.

58. **Chronic Typhoid.**—Bergolli reports three cases which warn that possibly typhoid with a tendency to chronicity may be mistaken for ordinary intestinal catarrh, febrile dyspepsia or masked tuberculosis, when examination of the blood or the agglutination test would reveal the typhoid origin of the disturbances. These disturbances may be of the nature of a series of complications, or anemia with much enlarged spleen, or a mild septicemia with gastro-intestinal manifestations. This latter group includes cases in which there seem to be series of reinfections, and also cases with series of relapses. In the first of his three cases the man had intervals of comparative health alternating with febrile bowel disturbances requiring hospital care. The paratyphoid B was cultivated from the blood each time, as also at the latest febrile period, ten months after the first symptoms. The temperature at this time ran up to 104 F. for one day and kept subfebrile for some time, with intense anemia but no delirium. The liver was hard and very large, and there was a tendency to urticaria. After subsidence of the fever this time the blood findings and tests were negative. There were no rose spots at any time. It is possible that paratyphoid is responsible for many cases of vague morbid conditions that drag along over months and are labeled catarrhal enteritis, febrile dyspepsia, etc. In another case the diarrhea, abdominal pains, headache and general weakness had lasted with ups and downs for a year. The paratyphoid B bacillus was found then in the blood, and the liver was very large and hard. A third patient had typhoid early in 1917 for sixty days. A month later he returned with fever and typhoid symptoms but the blood tests were negative. During the entire year he had to go to the hospital again and again on account of headache, diarrhea and abdominal pains, and finally the fever became continuous and the liver very much enlarged, but

there was no diarrhea. The fever gradually declined during the following three weeks, but then ran up very high, with a chill. After this it subsided to normal range by the thirteenth week. There had been no typhoid status during these weeks, and the blood findings were negative until the sixth week when typhoid bacilli, agglutinating at 1:400, were found. The importance of repeated bacteriologic examination of the blood in such cases is evident.

59. **The Staphylococcus Albus.**—Pari reports a number of typical cases which confirm the pathogenic properties of the *Staphylococcus albus*. He never was able to cultivate it from the blood of apparently healthy persons, but found it frequently in the blood of those presenting symptoms suggesting some coccus septicemia. In one boy of 13, polyarthritis dominated the clinical picture, in another a suppurative process in one hip joint yielded both the albus and aureus. In one man of 56 there was pericarditis and pleurisy in addition to polyarthritis and symptoms of sepsis, with final convalescence after nearly four months of illness with the albus cultivated from the blood. It was obtained also by puncture of the spleen in a boy of 16 with a mild form of albus sepsis. The fifth case is that of a woman of 31 with acute otitis media and mastoiditis, chills, fever, pleurisy, phlegmons and cystitis, developing shortly before delivery of a child that died an hour after birth. No microbes could be cultivated from the blood, but pure cultures of the albus were derived from the subcutaneous tissue of the arm at the point of the greatest infiltration.

Pediatria, Naples

April, 1918, **26**, No. 4

60 *Meningitis at Palermo. G. Di Cristina and M. Sindoni.—p. 193.
61 *Factors Impeding Breast Nursing. A. Borrino.—p. 220.
62 Pituitary Feminism and Adenoids. P. Calicetti.—p. 233.

May, 1918, **26**, No. 5

63 *Congenital Syphilis of the Kidneys. A. F. Canelli.—p. 257.
64 Biologic Tests for Casein in Stools. L. Maccone.—p. 270.
65 *Vaccine Therapy of Malta Fever. P. Chiriaco.—p. 282.

60. **Epidemic Meningitis.**—Di Cristina and Sindoni relate that meningitis has been prevailing in epidemic form at Palermo during the last five years. The mortality showed a downward trend until last year when there seemed to be an unusual predominance of extremely toxic cases and of relapses, flaring up of latent infection into the acute form, and protracted forms, the fever dragging along as if maintained by some suppurative process. Nothwithstanding free application of serotherapy, the mortality was over 54 per cent. in nurslings. The meningococci responsible for the tardy relapses and flare-ups seemed to be the same as at first, having regained their virulence after it had been for a time attenuated under the influence of the serotherapy. They had lost their agglutinating property, however, and had become resistant to the action of the antiserum. In fifty cases of the epidemic meningitis, sixteen developed these severe recurrences or relapses when the disease seemed to have been entirely conquered and the patients had apparently recovered or were convalescing. At first all those affected died. Serotherapy at this stage seemed to be futile and induced symptoms suggesting anaphylaxis even when this could not have been the case. They then began vaccine therapy, and when the intravenous route was adopted, the mortality dropped from 98 to 16.5 per cent. The charts from several cases in children given this vaccine therapy are reproduced. The fever declined and disappeared and both the general and local symptoms subsided and the spinal fluid cleared up.

61. **Functioning of the Mammary Gland.**—In this second study of this subject, Borrino sought to determine the reasons why bottle feeding, instead of breast feeding, had been given a certain proportion of the 1,110 children at the children's clinic at Turin and at the dispensary and consultations. As she found from her previous research, the women actually incapable of nursing their children are few and far between. Another point emphasized by her experience is that medical advice and assistance during the first week are able to increase materially the number of women able to nurse their children amply. Only in eighteen of 200 cases had the breast nursing been suspended later than the first month. In all the others the artificial feeding had been instituted during the first or second week. Consequently medical supervision and advice during the first two weeks may be said to ensure breast milk to the child. Milk stations, etc., to supply milk for infants are not needed so much as consultations, where the mothers are advised how to care for their infants. Distribution of milk has the wrong effect; it trains to artificial feeding of infants. In conclusion she reiterates that the first two weeks are the vital ones in this respect, and that prizes, lunches and other inducements should be offered to coax the mothers to bring their infants for consultations during these first weeks above all.

63. **Congenital Syphilis of the Kidney.**—Canelli has found congenital syphilis of the kidneys relatively frequent at necropsies. The manifestations of it are sclerotic atrophy, gummas, and cysts from retention. Amyloidosis of the kidneys is not characteristic of congenital syphilis. The nephritis from inherited syphilis may be an acute interstitial and parenchymatous form or a chronic sclerous atrophic. Familial syphilitic albuminuria may be a manifestation of tardy inherited syphilis.

65. **Vaccine Therapy in Malta Fever.**—Chiriaco reports three typical cases in children but of his extensive experience to sustain his statements as to the remarkable curative value of vaccine—made by the Di Cristina-Caronia technic—in treatment of undulant or Malta fever. He declares that no time should be wasted on quinin, dieting and intestinal disinfectants, but the vaccine should be given at once, as the patient grows worse under the other measures until irreparable damage results. He gives the vaccine by intramuscular injection, and relates that the results were always certain and extremely effectual, often actually remarkable from the rapid and complete disappearance of the infection.

Rivista di Clinica Pediatrica, Florence

April, 1918, **16**, No. 4

66 *Familial Spasmophilia. M. Pincherle and A. Pollidori.—p. 169.

66. **Familial Spasmophilia.**—Pincherle and Pollidori have been making a special study of spasmophilia in different members of various families. They analyze what has been written on spasmophilia to date, especially on the familial factor, and review their experiences during the last ten years at the Bologna clinic for children's diseases. In ninety-one examples of typical spasmophilia, a familial factor was evident in twenty-five, that is, in nearly 25 per cent. It usually was manifested in the appearance of tetany in two or more members of the family. In some the spasmophilia was latent and required special tests to bring it into evidence. In some families alcoholism or grave constitutional disease or neuropathic stigmata were manifest in parents or brothers or sisters. Rachitis, status lymphaticus, adenoids or merely enlarged glands often accompanied the symptoms of spasmophilia. The boys outnumbered the girls in the children with spasmophilia. A familial occurrence is thus shown to be not the exception but the frequent rule. Instead of incriminating defective feeding and other extraneous factors, some constitutional abnormality is probably responsible. The causal factors are more than a mere casual accidental hemorrhage in the parathyroids which some have suggested as the cause. The whole thyroid and thymus system may be below par, or the endocrine system. This view is sustained by Fiore's case in which hypotrophy of the thymus occurred in a pronounced form in both parent and child.

Annaes Paulistas de Med. e Cirurgia, S. Paulo

July, 1917, **8**, No. 7

67 Trauma of Spinal Cord Simulating Radiculitis. A. de Lima and L. Torres.—p. 149.
68 *Treatment of Tuberculosis. C. Ferreira.—p. 157.
69 *Ambard's Constant in Diagnosis. M. de S. Aranha.—p. 162.

August, 1917, **8**, No. 8

70 *Treatment of Amebic Dysentery. T. Bayma.—p. 173.
71 *Brain Tumor. H. Xavier.—p. 184.

68. **Treatment of Tuberculosis.**—Ferreira reviews a year's experiences with tuberculin treatment at the special tuberculosis clinic. He restricts the use of tuberculin to the first

stage of tuberculosis of the lungs, and to cases not showing a rapidly progressive or highly toxic course. He found it of benefit to give a complementary course with bovine tuberculin and then return to human tuberculin, or vice versa. Always he made a point of keeping the doses down to those inducing merely a minimal reaction, convinced that the tuberculin has no specific action but merely stimulates the organism to a more effectual defense. Hence it is futile to give it when the organism is not capable of devoting its energies to defense or is not free to do so. A lively reaction to the skin tuberculin test is a favorable sign. Tuberculins of different makes seemed to have always about the same action. One of the eight patients treated with induced pneumothorax died from complications and one has grown worse. The others are all either clinically cured or materially improved. The air at S. Paulo is very humid for heliotherapy. The patients did not even tan much under the exposures, showing that the ultraviolet rays scarcely reached the skin, but still five patients seemed to be materially benefited by the sun baths. Roentgen treatment gave good results in treatment of tuberculous glands. In twelve patients the tuberculin and Wassermann tests were both positive and there was one case which proved to be exclusively syphilis of the lung.

69. **The Value of Ambard's Constant.**—Aranha summarizes recent works on uremia in heart disease, in jaundice and with gastro-intestinal disease. All demonstrate the high value of the ureo-secretory constant both in diagnosis and prognosis.

70. **Amebic Dysentery**—Bayma remarks that he was the first to try epinephrin in treatment of amebic dysentery, publishing in July, 1915, his report on the systematic use of epinephrin in amebic dysentery. In later communications he endorsed its efficacy also in amebic liver disease and in appendicitis. In 1912 he found amebas in 0.11 per cent. of 3,419 stools examined at S. Paulo; in 1914 the proportion had risen to 2.04 per cent. of 3,418 stools, and in 1916 to 10 per cent. of 5,429 stools. Reports during the war from various countries indicate a wider prevalence of amebic dysentery in temperate climates than was formerly suspected. Epinephrin has certain advantages over emetin for treatment of amebic dysentery, and the experiences to date seem to indicate that the ameba is eradicated by it and does not pass into the encysted form. The epinephrin further has an important action on the suprarenalitis which has lately been demonstrated to be part of the clinical picture of amebic dysentery. Emetin and also the biniodid of bismuth and emetin have a more or less depressing action in amebic dysentery, directly aggravating the depression, weak pulse and tendency to syncope which reveal insufficiency on the part of the suprarenals. Epinephrin, on the other hand, suppresses the distressing colic and tenesmus, toning up the general system by its angiotonic and antitoxic action. The epinephrin can be given by the mouth up to 3 or 5 mg. a day without appreciably raising the blood pressure. Patients treated by Bayma with epinephrin over two years ago have remained in the best of health with nothing to indicate persisting infection with the ameba, and with nothing to suggest injury of the arteries or other organs from by-effects of the epinephrin. Only when the epinephrin is given by intravenous or intratracheal injection is there danger of by-effects. Bayma discusses further the experiences to date with oil of chenopodium, etc., and gives the bibliography of all these newer methods of treating amebic dysentery.

71. **Brain Tumor.**—Xavier reports a case of tumor in a man of 60 which had destroyed nearly all the white matter of the right hemisphere from the frontal pole to the occipital pole. The extent of the tumor explained the wide range of the symptoms. The sense of smell was lost but not vision. The absence of epilepsy spoke for a subcortical site. The ataxia had not been accompanied by vomiting or other cerebellar symptoms.

Cronica Medico-Quirurgica, Havana

April, 1918, 44, No. 4

72 Present Status of Leprosy. J. E. L. Silvero.—p. 194.
73 Should the Patient be Informed of Impending Incurable Blindness? J. Santos Fernandez.—p. 200.
74 Sick Mother Should Nurse Her Child. T. Hernandez.—p. 206.
75 *Trachoma in Cuba. J. M. Penichet.—p. 211.
76 Circumcision in Women: Five Cases. P. Pelaez.—p. 219.
77 Quackery in Cuba. F. M. de la Cruz.—p. 221.
78 *Brazilian Trypanosomiasis and the Thyroid. E. Novaes.—p. 224.

75. **Trachoma in Cuba.**—Penichet's work was awarded the prize offered by the *Cronica* at the recent Cuban Medical Congress. He has found classic epidemic trachoma only in foreigners in Cuba, the natives having few cases and the disease so attenuated as to mask its nature. Trachoma formed only from 3.5 to 5.77 per cent. of the cases of eye disease treated in the clinics, and only 3.25 per cent. of Santos Fernandez' 36,242 eye patients between 1875 and 1903. In recent years the proportion of suspicious cases has risen to 10 per cent. but not all the cases with the clinical aspect of trachoma are the actual disease. The secretion may contain only the bacteria commonly found in inflamed eyes, and treatment may be promptly effectual. In one remote district Penichet found every one of the 1,000 children suffering from this false trachoma. He saw how the eye disease spread through the whole family when one member contracted a simple acute conjunctivitis, the total lack of hygiene favoring its transmission. By the time the first member of the affected family enters on convalescence he becomes infected anew from some of the other members of the family, and a vicious circle is started. One small vicious circle starts others and larger ones, so that it is a difficult matter to stamp out such an epidemic. These repeated inflammations finally entail more or less hardening, the conjunctiva reacting with hypertrophy, and it is very easy to mistake cases at this stage for trachoma. They respond as if by magic to operative treatment. In 10,000 cases of eye disease he has examined he found true trachoma only in less than 4 per cent., and he now is wary in diagnosing trachoma until he has had a chance to study the effects of treatment. Guiral and Soler have recently announced that the features of trachoma suggest a fungus origin, but the commission appointed to study this phase of the subject were unable to confirm their statements. No effects were obtained by Penichet with autogenous vaccines.

78. **Brazilian Trypanosomiasis.**—This seems to be a translation of an article which was summarized in THE JOURNAL, Nov. 11, 1916, p. 1479.

Revista de Medicina y Cirugia, Havana

April 25, 1918, 22, No. 8

79 *Iodin in Surgery of the Eyes. R. Guiral.—p. 224.

79. **Iodin in Ophthalmology.**—Guiral comments on the absence of caustic action when tincture of iodin is applied to the eye. He has used it in 107 cataract operations without iridectomy and in seventy-four cases with iridectomy, and all were cured in three days. In four cases of hernia of the vitreous body all were cured in four days. He regards it as harmless for the eyeball; no signs of irritation are apparent when the eye is dressed the next day. Even the vitreous body does not seem to be injured by it, he says, while it wards off postoperative pain and promotes rapid healing.

Revista Medico-Cirurgica do Brasil

January, 1918, 26, No. 1

80 *Radiology in France during the War. M. D. de Abreu.—p. 4.
81 *Elimination of Chlorids in Pneumonia. A. de F. Guião.—p. 9.
82 Heteradelphus Parasitic Monster. A. Silva, Jr.—p. 30.

80. **Roentgen Work in France.**—De Abreu is chief of the radiologic cabinet connected with the Franco-Brazilian ambulance stationed at Paris, and he descants on the revolution that has taken place in France since the war began in the general estimation of the roentgen rays. Before that, there were a few very eminent radiologists in France but the rank and file of the profession paid little attention to the roentgen rays, "and nothing," he remarks, "opposes such unconquerable resistance to the onward march of ideas as silence." The professional roentgenologists were misled by the Austrians into viewing radiology almost exclusively from the therapeutic standpoint.

The rays were experimented with in every disease and although the results were found excellent in some, this was

restricted to certain parasitic skin diseases, tumors and certain forms of bone or skin tuberculosis, and leukemia. The rays were also used in diagnosis by a few French writers, especially the internists. But the majority of the physicians knew little and cared less about this method of examination, and even some of the first class medical services in the hospitals only rarely called for a roentgen examination of a patient, and then only for cancer of the stomach or kidney stones, and the chief of the service never followed the patient to the roentgen room. De Abreu had charge of the roentgen service in the largest hospital, and in his long months there only Chauffard, and he only once, followed the patient to the roentgen room. All apparently were content with the auscultation and percussion, the pathologic anatomy and bacteriology and chemistry findings.

But with the war and the necessity for locating projectiles in the tissues, radiology sprang at once into the first rank, and its importance for diagnosis in wide fields was soon recognized—a revelation for all. At the same time, roentgenology did not detract one iota from the value of clinical examination but enhanced its value. The war precipitated the use of the roentgen rays and de Abreu pleads for a similar diffusion in Brazil of knowledge concerning them and their wide and systematic utilization, without waiting for a war to force it on the country. He urges the creation of a chair for radiology in the University of Rio de Janeiro. Both in civilian and in military circles the young physicians of Brazil should get this training in roentgen work, and perhaps take a leading part in radiology, as some have done already in bacteriology.

81. Elimination of Chlorids in Pneumonia.—Guião devotes twenty pages to discussion of the literature on the retention of chlorids in pneumonia and the findings in ten cases personally investigated. He determined repeatedly the proportion of chlorids in the urine and in the sputum, with control research on some tuberculous and healthy controls. The chlorid content was higher in the sputum than in the urine during the febrile period, but after defervescence the reverse was observed. The difference between the total elimination of chlorids before and after defervescence is minimal. In the tuberculous, the chlorid content of sputum and urine kept approximately the same.

Siglo Medico, Madrid

March 9, 1918, **65**, No. 3352

83 *Endemic Goiter in Spain. J. Goyanes.—p. 182. Conclusion.
84 Jacksonian Epilepsy or Hystero-Epilepsy? F. G. Aguilar.—p. 184. Conclusion.

March 16, 1918, **65**, No. 3353

85 *Echinococcus Cysts Back of Bladder. I. S. Covisa.—p. 202.
86 Blunders in Roentgen Diagnosis of Echinococcus Cyst in Lung. A. Piga and A. Ferran.—p. 205.
87 Is Isolation Useful in Measles? B. H. Briz.—p. 207.
88 Social Insurance. Ubeda y Correal.—p. 208. Conclusion.

83. Endemic Goiter in Spain.—The previous instalments of Goyanes' article were reviewed on page 1570. He here gives illustrations of cretins and adults with goiter from the various villages in the Avila province. In one with 300 inhabitants he found four cretins. In one district with 1,780 inhabitants, in 1914 every one of the young men registered for military service was rejected on account of goiter.

85. Retrovesical Echinococcus Cysts.—Covisa's patient was a young man of 20, with no appreciable pathologic antecedents, who complained that micturition had been difficult for about four months. A smooth tumor could be felt reaching from the prostate region to the hypogastrium, with no signs of general or local inflammation. The complement deviation test for echinococcus disease was strongly positive, and the huge cyst was opened through a hypogastric incision and sutured to the lips of the wound. It apparently filled completely the space between the bladder and rectum and extended to the abdominal wall in the hypogastrium. In a second case with this same localization of a large echinococcus cyst between the bladder and the rectum, the latter had been compressed most and the disturbances had been mainly in defecation instead of in urination. This cyst was detached from below.

Hospitalstidende, Copenhagen

March 27, 1918, **61**, No. 13

89 *Invagination from Tumor. J. Henrichsen.—p. 385.
90 *The Anamnesis with Eye Disease. H. Rønne.—p. 403.

April 3, 1918, **61**, No. 14

91 *Hypertonic Treatment of Ulcers. C. Permin.—p. 417.
92 Experiences with Carrel-Dakin Treatment. P. V. Tuxen.—p. 422.

April 10, 1918, **61**, No. 15

93 *Meningococcus Infection. S. T. Sørensen.—p. 449.
94 Present Status of Hemeralopia. K. K. K. Lundsgaard.—470. Commenced in No. 14, p. 429.

89. Invagination from Tumor.—In the case described, the woman of 51 recovered after resection of ileum and colon, the seat of invagination induced by a polypous fibroma in the cecum. She had had several attacks suggesting ileus, probably disturbances from invagination which had spontaneously corrected itself in time while the tumor was small. At first the attacks were merely periodical, vague digestive disturbances and abdominal pains. As they returned at long intervals they simulated various abdominal morbid conditions to actual ileus. Even if the invagination corrects itself, it is liable to recur, so that an operation when invagination is certain or even suspected is advocated.

90. The Anamnesis with Eye Disease.—Rønne remarks that when the practitioner is consulted on account of asthenopia, he can assume that the trouble is more likely to be from conjunctivitis if it has developed recently and acutely. Intolerance for tobacco smoke is perhaps the most constant symptom of conjunctivitis, as also of a stye. Recurring styes can be easily and certainly cured, he adds, with a persevering salve treatment, for example, with Ung. chloret. amido. hydrarg. With epiphora, the extent of the flow of tears can be estimated by asking whether a handkerchief has to be carried in the hand in the street to wipe the eye, and whether the flow continues in the house. Especially if the flow is only on one side, treatment is called for as dacryocystitis practically always develops in consequence of a chronic stricture or catarrhal process in the lacrimal duct.

With the sensation of a foreign body in the eye, the knowledge that the sensation comes and goes, testifies against there being an actual foreign body; with this the sensation would be continuous. Intermittent sensations of this kind are probably from some accumulation of conjunctivitic secretions. These foreign body pains are always located in or just beneath the conjunctiva, contrary to the pains from iritis. These are of a neuralgic type, mostly in the temple and forehead, and growing worse at night. Atropin is the best remedy here; it acts usually nearly instantaneously. Inflammatory glaucoma induces exactly the same type of pains, but atropin is absolutely contraindicated here. Glaucoma can be excluded not only by its objective symptoms but also by the rainbow halo around lights. The anamnesis is also highly instructive with bullous keratitis, developing after a scratch of the cornea and returning again and again after free intervals of days, months or years.

He warns against mistaking simple glaucoma for senile cataract as treatment of the former in time may arrest it. The beginning cataract is usually accompanied by monocular diplopia; women notice that in threading a needle they see two or several needles. An incipient cataract may induce some myopia; when the elderly suddenly lay aside their presbyopia glasses and read without them, this warns of beginning cataract. Simple glaucoma on the other hand, has scarcely any anamnestic symptoms, not even the rainbow halo, if treatment is not delayed until too late. The physician must be on the alert to detect hemianopsia and diplopia, even if the patient has not recognized himself the true nature of his visual disturbance.

91. Hypertonic Saline in Treatment of Wounds and Ulcers.—Permin found that the infected wound healed up remarkably quickly under hypertonic salt solution in the 120 cases in which he applied this treatment. The indications for it are when the wound cavity has infected, infiltrated walls. It is particularly useful under war conditions, in the office surgical work of the general practitioner, at first aid stations, and in the surgical policlinic. The method is easily applied, it is inexpensive and it is effectual, he declares.

93. **Meningococcus Infection.**—Sørensen discusses the Holmen epidemic in 1917 which has already been described in these columns, p. 498. The previous report on the subject was written too exclusively from the bacteriologic standpoint, he says, and he here emphasizes the three phases of the epidemic, first the widespread catarrhal disturbances, then a mild exanthematous sickness, and then a crop of meningitis cases with petechiae and 100 per cent. mortality. The cocci found corresponded in every particular to the typical meningococcus, except that it proliferated in bouillon-agar without waiting for admixture of ascitic fluid. Sørensen says that this extra vigorous proliferating power may explain the invasion of tissues other than those to which the meningococcus generally restricts its ravages, and hence its wide proliferation permitted an exceptional development of toxins, and acute fulminating toxic action. The clinical picture resembled that of varioloid purpura, and necropsy revealed infected spleen, pneumonia, purulent pericarditis and parenchymatous degeneration of organs. He is inclined to incriminate some other factor, as the men with this fulminating type all came from a certain compartment of the school ship. The assumption that the meningococcus in question was of a special and distinct type, or that there were two diseases present, one causing the exanthem and the other the meningitis, would explain the clinical course, and would also give greater hope of effectual treatment. The epidemic was arrested as soon as the quarters affected were temporarily abandoned.

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95 *Abdominal Injury in the Newly Born. G. Hedren.—p. 1.
96 *Intracranial Hemorrhage in the Newborn. G. Hedren.—p. 53.
97 Center of Gravity of Erect Body. C. Hesser.—p. 133.

95. **Fatal Injury of Viscera in the Newly Born.**—Hedren discusses intrapartum injuries of the liver, pancreas, suprarenals and kidneys as he has encountered them or found reports in the literature. One most important practical conclusion from his study of the subject is that fatal injury of viscera may occur with spontaneous delivery. In his examination of 1,000 cadavers of new-born infants he found two with actual rupture of the parenchyma of the liver, one with spontaneous and one with forcible delivery. The mother in the latter case was a primipara of 42; the other mother was a tertipara of 22. In both cases there was breech presentation; the delivery occurred spontaneously in the younger woman but the child succumbed during delivery; the other child lived a day. In these as also in the comparatively numerous cases he has compiled from the literature, the liver was gorged with blood but otherwise normal. The child of another woman, a secundipara of 31, died six hours after spontaneous delivery in vertex presentation and necropsy revealed rupture of the spleen. In all the cases known of intrapartum rupture of the spleen, it was found already diseased. There is only one case each on record to his knowledge of fatal rupture of the pancreas or kidney, but minute subcapsular hemorrhages in the pancreas were found comparatively often in the 1,000 cadavers of the newly born. He gives summaries further of seventeen cases of fatal intrapartum injury of intestines, and one case of hematoma in the cecum and two of rupture of vessels in the omentum. In some of the cases conditions seemed to indicate that the rupture had occurred before delivery; in some during spontaneous delivery.

Among the 1,080 newly born infant cadavers, Hedren found a pronounced hematoma in one suprarenal gland in eight cases. In four the forceps completed the delivery, and in one case version and extraction were applied. In the four other cases delivery had been spontaneous, and a number of similar cases are on record. Every factor that increases the pressure in the veins, asphyxia, disturbance in breathing, promotes further the tendency to central hemorrhage in the suprarenals. There are some cases on record in which the swinging method of artificial respiration seems to have been responsible for the hemorrhages, although in some cases they had evidently preceded the swinging. This sequence of events is open to discussion in a case described by Hervey in which an infant died the tenth day after birth. Hemorrhages were found in the suprarenals and also in the skull, and the mother related that the child had fallen off the bed the day after its birth. Hervey ascribed all the hemorrhages to this, but the suprarenal damage may have occurred from birth trauma. Three pages of bibliography are appended.

96. **Intracranial Hemorrhage in the Newly Born.**—Hedren found intracranial hemorrhage in about 9.28 per cent. of 700 infant cadavers. The hemorrhage was restricted to the meninges in nearly 84 per cent., and cerebral hemorrhage accompanied the meningeal hemorrhage in others, bringing the total of meningeal hemorrhages to 90.7 per cent. The clinical and anatomic details of each case are given, with the bibliography on intracranial hemorrhage in the newly born. Delivery had been spontaneous in 50 of the 65 cases, and conditions in both mother and child seemed to be normal in most of the cases. In the 42 purely meningeal cases, the hemorrhage had been supratentorial in 32; infratentorial in 10, and both in 6. He ascribes great causal importance to intra-uterine disturbances in respiration and circulation, as well as to compression of the bones of the head in the birth passage. Only 3 of the children presented unmistakable evidence of inherited syphilis. In a few of the cases the mother had eclampsia. In 10 medicolegal cases, the intracranial hemorrhage was nearly always accompanied by signs of asphyxia, venous hyperemia, ecchymoses, etc. He emphasizes that injury from the birth trauma may resemble in every respect injury from certain external causes after birth. It is also important to bear in mind that these intracranial hemorrhages may occur with rapid and easy spontaneous delivery. He emphasizes also that the intracranial hemorrhage may occur during birth without fracture of bone, and hence that when a fracture or a fissure is found in the skull bones, this may have occurred after delivery. In conclusion he adds that on account of the medicolegal importance of intracranial hemorrhage, some standard procedure should be formulated and enforced for the taking out and the examination of the brain of the newly born in medicolegal cases. Hedren's two articles on hemorrhage in the newly born fill 132 pages, and each is accompanied by a full summary, in German.

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98 *Habitual Constipation. VI. T. E. H. Thaysen.—p. 509. Commenced in No. 12, p. 467.
99 Puzzling Cases of Extra-Uterine Pregnancy. Henrichsen.—p. 528.

98. **Dyspepsia with Habitual Constipation.**—This is Thaysen's sixth report on the clinical and roentgen study of chronic habitual constipation. The digestive disturbances for which it is responsible seem to be distinguished by developing only after the chronic constipation is under way; by the fact that the pains, the cardialgia, are experienced at once or soon after eating, and by the subsidence of the dyspepsia when the constipation is corrected. Cardialgia was noted in 73 per cent. of the women and in 35 per cent. of the men. The female stomach seems to react with ptosis more than the male stomach, while the stomach reacts with secretory disturbances more often in men than in women. Habitual constipation usually becomes installed between 15 and 20, or dates from childhood. Analysis of his cases indicates that the typical form of dyspepsia with habitual constipation may be regarded as reflex disturbances set up by the constipated colon, colodyspepsia. In 150 cases of gastric ulcer, 109 had a history of constipation but never so regular and stubborn as in the colon dyspepsia cases; men and women seem to be equally affected. In a typical case of colon dyspepsia described, the bowel functions were regulated, and regular functioning was maintained with massage of the abdomen, an abdominal band (*Neptuns Baelte*), cold sponging, and fat in the diet after the dyspepsia had subsided. Six months later the bowels were functioning spontaneously and the young woman has gained in weight and eats ordinary food, but no milk. There is still a tendency to cold hands and feet and occasionally headache.